

The Technology Review

Published at 10 Depot St., CONCORD, N. H.
Editorial Office: 491 Boylston St., Boston, Mass.

VOL. XIX

APRIL, 1917

No. 4

Contents

	PAGE
A COURSE IN MILITARY ENGINEERING	187
IMPORTANT COUNCIL MEETINGS	192
CHANGE IN BY-LAWS	199
REPORT OF THE SECRETARY-TREASURER	202
THE NEW FLAGPOLES	209
A FACULTY COMMITTEE ON INTROSPECTION	213
WHERE THE FACULTY STANDS	216
ACTIVITIES OF LOCAL ASSOCIATIONS	218
TECH MEN IN THE PUBLIC EYE	248
MISCELLANEOUS CLIPPINGS	252
BOOK REVIEWS	263
NEWS FROM THE CLASSES	265

technology review

Published by MIT

This PDF is for your personal, non-commercial use only.
Distribution and use of this material are governed by copyright law.
For non-personal use, or to order multiple copies please email
permissions@technologyreview.com.



Copyright, Bain News Service.

ANNAPOLIS BOARD OF VISITORS

Left to right—R. L. Wheeler, President University of California; E. A. Alderman, President University of Virginia; A. R. Hill, President University of Missouri; J. B. Dicks, Secretary of Navy; C. W. Dudley, President University of Cincinnati; R. C. Macdarm, President Massachusetts Institute of Technology; A. C. Humphreys, President Stevens Institute; K. C. M. Sills, Dean of Bowdoin College.

The Technology Review

Published at 10 Depot St., CONCORD, N. H.
Editorial Office: Cambridge, Mass.

Vol. XIX

APRIL, 1917

No. 4

A COURSE IN MILITARY ENGINEERING

Proposal by Major Cole meets with approval by the Faculty—
Board of officers appointed to report to the Secretary of
War

Much has been said in the newspapers of late about what the different colleges are doing for preparedness, and in some quarters surprise has been expressed that the Institute should not be more active. When asked about this Maj. Edwin T. Cole, U. S. A., professor of military science at Technology, gave the following information concerning the real position of the Institute:

The reason why Technology has had so little to say on the subject of preparedness is because that this is its normal condition. For some fifty years the Institute has been carrying on combined courses of technical training and compulsory military training, which have fitted all the graduates for reserve officers' work in the technical branches of the service, such as engineers corps, ordnance department, signal corps and coast artillery, and has fitted them better than are the graduates of almost any other college or the men from any other source. The consequence is that in the present excitement it has been realized that the continued effort of so many years has accomplished so much and that little could be added by any spasmodic training of a few months' duration. So the Institute has continued such military training as will be available for any immediate emergency in the same quiet and unostentatious way in which all its work is done.

Rather than stimulate any excitement during present conditions and to avoid any hysterical or absurd action, the effort has been made to keep the young men from getting excited and at the

same time to show them the kind of duty for which they will best be fitted. The result has been that the student body has considered the problem confronting it in a calm and deliberate way, has counselled with the army officers on duty at the college and has learned exactly what should be done to go into the reserve branches of any of the services, or to enter the regular army as officers, a large number of whom will be needed. Many men have already applied for reserve commissions and have made formal application to take the examinations for the engineer corps and for the various line branches and many others are ready to do so when it is evident that their services are needed. A student preparedness committee has been formed with the idea of getting all possible information on the subject, presenting it to the student body, and advising men as to what they had best do. It would be hard to imagine a better expression of the duty of college men than is contained in the summing up of the report of this committee:

Every Tech man should feel that he holds his life and his ability for work in trust for his country—to be rendered up at whatever moment and in whatever way would be most useful. Patriotism should be uppermost in every man's heart, but intelligent rather than blind patriotism. If at this moment the most intelligently useful course is to remain at Technology, every man should follow this course. When the time comes for action, as it surely will, men should act with only one thought and one desire—to do their utmost for their country to which they owe their own liberty and happiness.

Any observer of the present day cannot help but have been impressed with the idea of how important are the duties of the various trained engineers. At the present time it is claimed that Germany has gained an important advantage by a successfully managed retreat because it will take considerable time for the Allies to construct the roads, railroads, communications, telephone and telegraph, etc., and move up guns and munitions to enable them to be on the same terms for attacking the enemy that they were before this retreat. The old method of supplying armies by wagons or even by the improved motor car of the present time amounts to little with the enormous quantities of ammunition required and the very great weight of guns and gun carriages. Consequently, after every successful driving back of the enemy there must ensue a period of very intensive building of roads, railroads, and the necessary communication devices, the moving forward of tremendously heavy guns and their carriages, and the

construction of new platforms for them and protective shelters for the men working them. Anyone will see at a glance the need for civil, mechanical, and electrical engineers, not for laboratory research work, but for the most active duty in the field. Technology is, of course, training men along these lines and has been doing so since its establishment and in addition is giving them a military course.

The military course at present consists of three hours' compulsory work in the first year and volunteer work thereafter with the infantry regiment, many of the officers taking training for the four years. In addition to this there is an engineer organization formed last year as a volunteer matter and having an enrollment of about 125 men devoting two hours a week to actual field problems of the military engineer.

"It is realized that while the academic training of the Tech men is not open to criticism," said Major Cole, "the military course is not sufficient in extent or variety except for men who voluntarily take extra work, but we do believe that in the event of war we can furnish so many men who know engineering problems and who know enough of the military problems to be able to apply their technical knowledge, that we can furnish the Government with a large number of splendid reserve officers. This is the more true since many of the graduates have had years of supervision of working gangs, camps, etc., much of the work being very similar to that required of officers of the army."

A board of officers has been commissioned to look into instruction at Tech, and has just completed a report. With the most sympathetic aid of the Faculty, it has examined all of the departments at Technology, knows just what they teach and how they teach it, has picked out of each course what is of specific military value, and has proposed a scheme to the War Department for a full four years' course of training for officers of the technical branches above mentioned, the idea being to comply with the Reserve Officers' Training Corps law passed at the last session of Congress, to provide instruction taking advantage of the splendid academic facilities, and adding the necessary military work to give men a well-rounded knowledge of the duties of the particular branches for which they register.

In general, no changes are made in the ordinary courses except that some additional courses are added to the options and some changes in problem work, etc., have been made so as to give the student a clear understanding of the military bearing of the subject he is studying. It has been found that so much of the work of

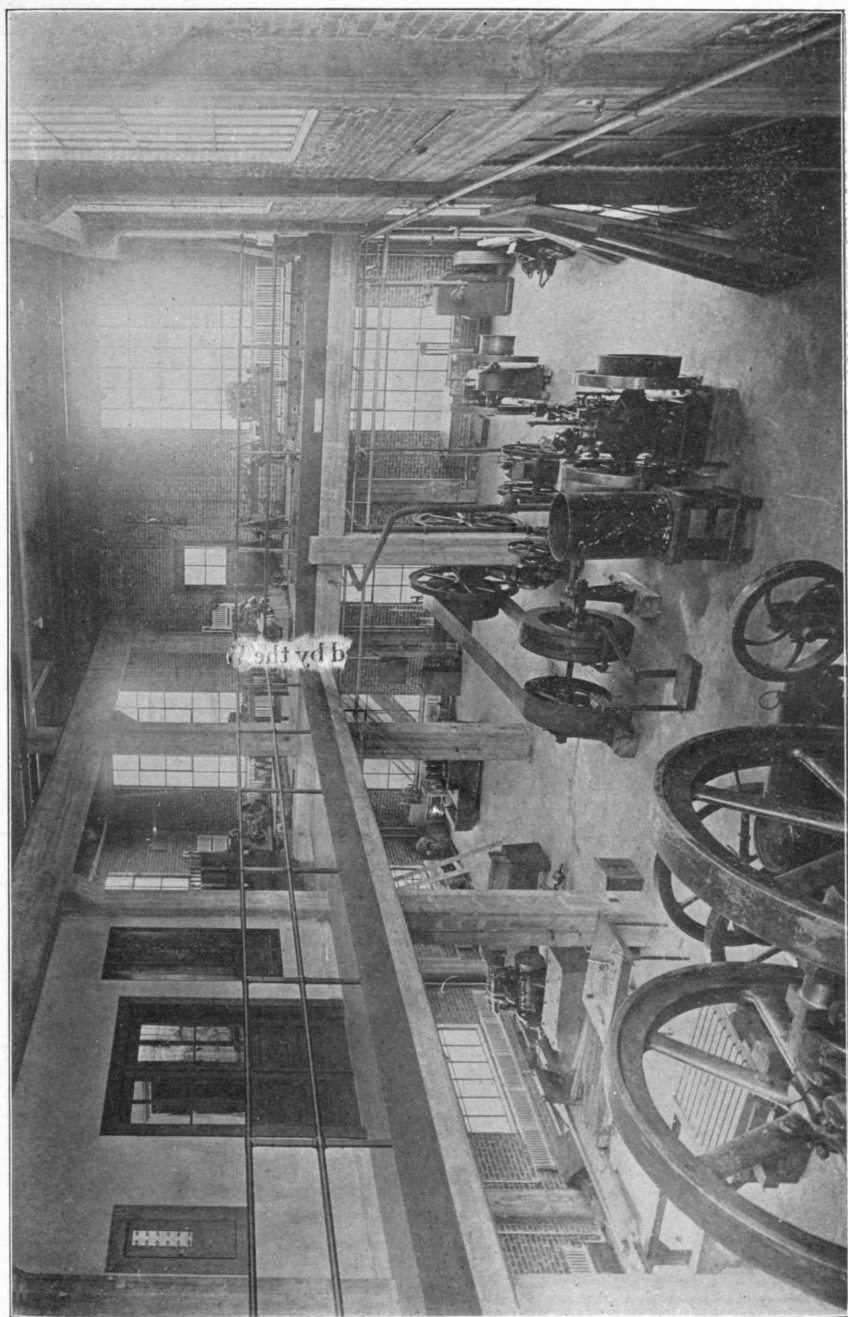
the various courses is such as would be taken by officers at the post-graduate service schools that in order to turn out first-rate officers it will only be necessary to organize drill units for the considered branches, touching the particular field applications of the work.

It is, however, entirely practical to teach a man all of the field work of the signal corps, involving receiving and sending messages with flag, heliograph, torch, lantern, telegraph, field buzzer, and field wireless sets, the construction of telegraph and telephone lines, use of switchboards, placing faults in lines and testing lines to discover the location of faults placed there by the enemy. The knowledge, in addition to this, of the instruments used in the government service, their manufacture, testing, etc., can all be made part of this course. In the engineering department work can be given out in the use of cordage, knots, rigging, handling heavy loads, gins, shears, tackles, building of military bridges, trestle, truss, and floating, etc. Some work can be done of value to the coast artillery and the ordnance department. The definite scheme has not yet been approved by the War Department, but in general it involves the following:

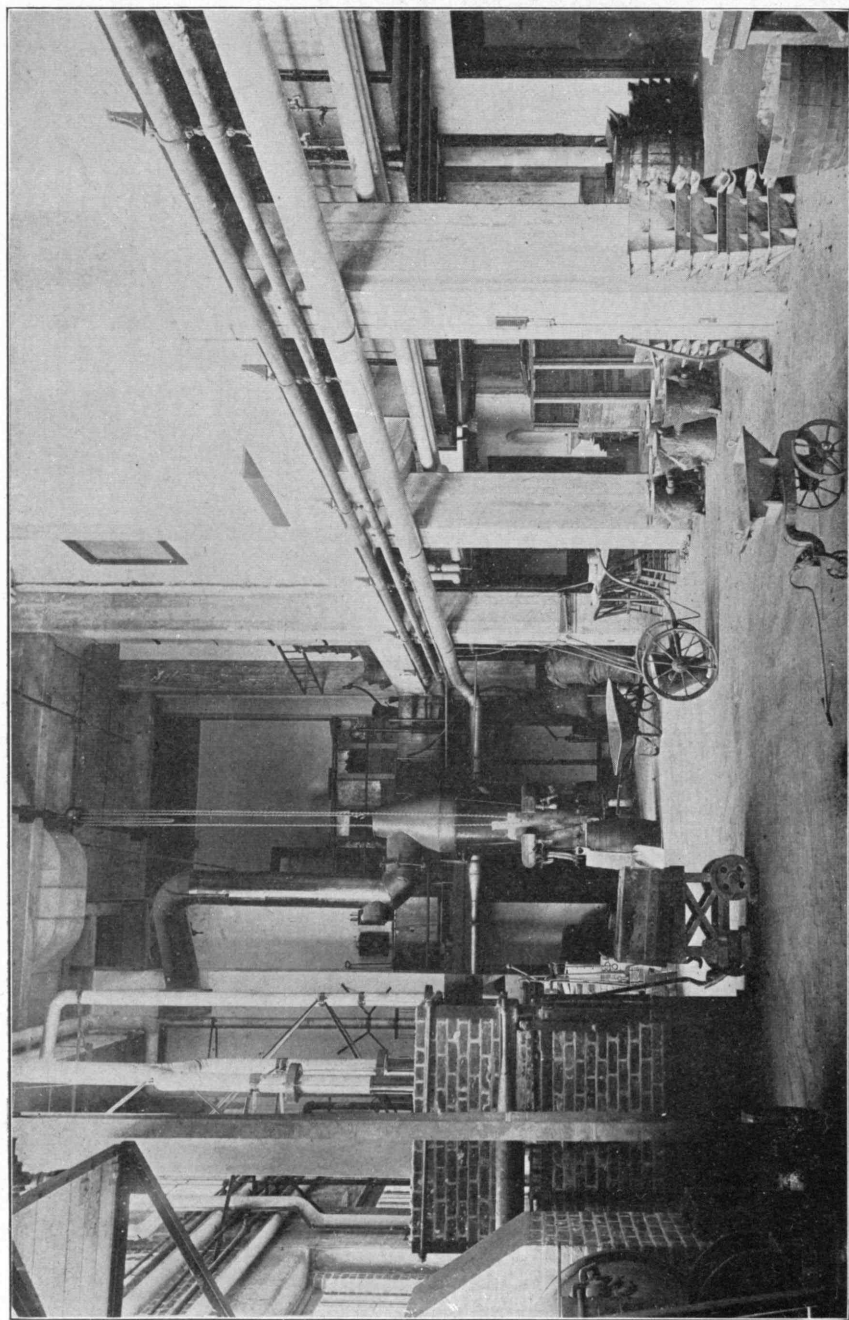
Completion in each department of all the courses of regular academic instruction and laboratory work deemed of military importance; the same compulsory three hours' military instruction for the freshman class which has been so long given; in the succeeding years about two hours' drill per week for each year in the drill unit of the particular arm for which the student is qualifying; participation at some time during the course in a summer camp in which the work is that of the branch corresponding to the student's military course. In addition to this, as many students as possible will be interested in taking thesis subjects along military lines.

While the scheme proposed by the board is based on a study of Technology, any college having the courses to provide instruction of equal value can similarly organize units for training officers.

"I have given this subject deep study," said Major Cole, "and have conferred with a number of officers and I am convinced that when the plan is put in effect few men will graduate from Technology who will not be of high value for entering at once on the duties of reserve officers. While at the present time nothing has been arranged in this line, I believe that in the future when this scheme gets in full working order, the technical branches of the service of the Regular Army will be glad to fill vacancies from men trained in these courses. Even now Technology men



INTERNAL COMBUSTION ENGINE LABORATORY



LABORATORY OF FIRE METALLURGY, LOOKING EAST

would have no difficulty in passing the Regular Army examination. Even in the case of the Engineer Corps, which provides an extremely difficult technical examination for officers, out of seven men from the whole country who successfully passed this examination last year, four were from Tech. . . . While the training our graduates have at present is not nearly as good as it would be under the new order, we have avoided excitement or efforts at intensive training because we have realized that whatever deficiencies we may have, our graduates even now are splendidly fitted for service. They do not know many things that they should, but they know so many things that are of value and know them in such a thoroughly practical way that I have no doubt that in any emergency they will acquit themselves splendidly and that little could be gained by promoting excitement and doing spasmodic work for a few weeks."

Said Major Cole in conclusion:

It is far from my intention to belittle in any way the splendid manner in which so many of our colleges are taking hold of the matter, in so far as is possible making up for the precious years wasted when they might have been learning to be of service in the defense of their country, with an expenditure of time and energy which would not have interfered with either business or pleasure. I am only very glad that as modern warfare calls for the use of so many trained engineers on the firing line Tech can furnish such a splendidly trained lot of engineers and that they will be able to work the more intelligently on account of the compulsory military training which has been required of all men since the earliest days of the college.

A Correction

In the January REVIEW the statement was made that Mr. Otto H. Kahn was "The philanthropist behind the Kahn foundation," which is not true. The Kahn foundation was made possible by Mr. Albert Kahn of Paris, France.

The board of trustees consists of Mr. Edward D. Adams, '69, of New York, chairman, President Nicholas Murray Butler of Columbia University, New York, Henry Fairfield Osborn, American Museum of Natural History, New York, Charles B. Walcott, Smithsonian Institution, Washington, D. C., Henry S. Prichett, president of Carnegie Foundation for the Advancement of Teaching, New York, and A. Lawrence Lowell, president of Harvard University.

IMPORTANT COUNCIL MEETINGS

War preparations discussed—Congress of Human Engineering proposed at dedication of Walker Memorial—Prof. Mann on new ideals in engineering education

The fifty-sixth meeting of the Alumni Council was held at the Engineers Club, February 26, 1917.

Captain H. S. Wonson, '07, author of "Dear Old M. I. T.," and who recently served in the National Guard on the Mexican border, addressed the Council on "Service in the Militia." He strongly advised the organization of compulsory military service.

The business on the call for the meeting was: Report of Committee on Undergraduate Tax, presentation of the plans of the new course in chemical engineering practice, by Professor W. H. Walker, and outline of plans and preparations that are being made at the Institute for the undergraduates in case of war.

In the absence of the chairman of the committee appointed by the Council to examine the question of an undergraduate tax, the secretary read the report of the committee. This report was approved. The matter of the detail in regard to the various appropriations to be made from the money collected from this tax was referred to the Alumni Advisory Council on Finance.

Mr. Litchfield, chairman of the Committee on the Mobilization of Technology's Resources, made a report of progress.

The question of reopening a discussion on the problem of an undergraduate tax was raised, but the chair suggested that those speaking on this problem could to advantage confer with the committee to whom this report is now referred.

The chair introduced Professor W. H. Walker, who is in charge of the School of Chemical Engineering Practice. Professor Walker gave an interesting talk, illustrated by lantern slides, on the New School of Chemical Engineering Practice, describing its purpose and outlining what has already been undertaken.

The chair read part of an editorial of the *Boston Transcript* on the preparations being made by Technology graduates and undergraduates for national defence. He then introduced Major Cole, who is in charge of the military department at Technology. Major Cole spoke of the military history of the United States, and

how it is not taught. He spoke of the changes in the course of military science at the Institute and of the qualifications of graduates in regard to their entering the ordnance department, artillery, engineer corps and such technical branches of the army. He read extracts from a letter written to President MacLaurin on the possibilities of establishing a course for training officers for the technical development of the army. In Major Cole's opinion, Technology can readily become the best military training school in the country for the technical branches of the army. He announced that a letter had been received from the War Department assuring him of the possibility of having his plan, which he outlined to President MacLaurin, adopted by the War Department.

After Major Cole's address, the chair introduced Mr. Kenneth C. Richmond of the class of '17, who is chairman of the Student Committee on Preparedness. Mr. Richmond outlined a report, which is to be presented to the students at their mass meeting on Thursday, March 1. He showed charts which would readily show students what part of the army or navy would be of interest to them and how they could obtain advice concerning entrance to these various branches.

At the fifty-seventh meeting of the Alumni Council held March 26 it was voted that it was the sense of the Council that the association should be incorporated and that the Executive Committee be authorized to act when deemed necessary.

A nominating committee was also appointed to present names for advisory members of undergraduate activities.

Plans for the coming meeting of the Technology Clubs Associated in Cleveland were presented.

For some time the question of taking up the study of the human side in engineering has been discussed informally by students, professors and alumni, and in view of the interest taken in this subject and because of the plan to dedicate the new Walker Memorial in the fall with a congress of human engineering, Mr. Fred H. Rindge, secretary of the National Committee of the Y. M. C. A., told about a congress of human engineering which has recently been held in Ohio. Following is a digest of Mr. Rindge's remarks:

"These are days of great industrial and social problems in America, and in the face of the present crisis it is fair to say that the Nation, as never before, is looking to its engineers for the solu-

tion of many of these problems. The engineer of today, and increasingly of tomorrow, stands at the focus of the whole industrial situation and he above all others must be able to look both ways—that is, he must understand clearly the points of view of both employer and employee. His opportunities for practical service daily become greater and thinking men throughout the country realize that to be a mechanical engineer, an electrical engineer, a mining engineer, a civil, a metallurgical, or a chemical engineer is not enough. One must be a *social* and a *human engineer* as well.

“There is every indication that the engineering profession is becoming more and more alert to the importance of human engineering. We see it illustrated in the papers, the magazines and the books of the day. Its importance is proved by the fact that 30,000 business concerns in America are now engaged in one form or another of worth while welfare work. The meetings of employers and joint meetings of capital and labor are indicating that the two great forces of industry today are beginning to see eye to eye on many of these problems. Engineering schools and universities are beginning to include in their curricula courses in human engineering. For three days in October, 1916, Ohio State University held a great congress of human engineering. Prominent employers, labor leaders, engineers, social workers and association secretaries are secured from all over the country to present different points of view on vital industrial problems and various aspects of human engineering. Addresses were supplemented by practical discussions, exhibits of industrial betterment work from various companies, etc. Seven thousand volumes of the proceedings are being published and can be secured on request. Other such conferences are being planned.

“Dr. C. R. Mann of the Carnegie Foundation for the Advancement of Teaching has recently completed a most comprehensive investigation of engineering education throughout the country and says that his extensive studies have revealed clearly the need for larger appreciation of the human side and for engineers today to take time to engage in practical service with industrial workers. It is exceedingly significant that Dr. Mann has recently been appointed director of Educational Research at Massachusetts Institute at Technology.

“Leading business concerns are demanding that engineers in the future should have not only a technical knowledge but also a

knowledge of actual industrial conditions and a knowledge of how to handle men. The Young Men's Christian Association has been working along all of these lines for the last ten years through its Industrial Service Movement, with engineering students and graduates. The association has been to some extent responsible for bringing these very ideas to the fore. At the present time 4,500 graduates are reaching 100,000 working men and boys in practical service. They are teaching English to foreigners, instructing working men in mathematics, mechanical drawing and other technical subjects, speaking at noon hour shop meetings, leading clubs of apprentices and working boys, and many other things. Needless to say, these men are getting out of this experience far more than they are giving. They are gaining an insight into actual industrial conditions; they are coming to know other men personally and intimately and they are gaining a practical knowledge of how to handle men intelligently and sympathetically. Nearly 1,000 men a year are graduating from our colleges after such experiences, with a new vision of their service opportunities and responsibilities.

"To sum up some of these things which an engineering student may learn from engaging in industrial service. He learns that all men are men regardless of race, nationality, color or creed, but that men must be dealt with very differently; he learns that it pays to win the leaders of men if one desires to win the men themselves; that the work, home and leisure life of industrial workers play a large part in determining efficiency; that a man's shop associates may largely influence the quality of work he does; that helping men to concentrate on their work (though not at the expense of mental and physical welfare) increases output; that friendly competition (without driving men) helps break records; that reasonable relaxation and recreation pays both from the human and economic stand points; that visitation of other plants and stimulation of new ideas in various ways may mean a money-saving to the company; that loyalty of the men is one of the employer's greatest assets; and that character counts most of all. More than this he learns in general to understand men, he learns how to sympathize with the other fellow's point of view and how to handle men successfully.

"The Massachusetts Institute of Technology has always taken an advanced stand along these lines and it is to be hoped that this

great institution will greatly advance the cause of Human Engineering during the next few years. Human Engineering is so broad a subject that it is impossible to give a short definition for it must be a part of all known types of engineering. It is that phase of engineering which studies and promotes the welfare and happiness of all the human beings in any industrial operation. It deals inevitably with scientific and just methods of hiring and firing, with comprehensive schemes of training and education, with improving all working, living and leisure conditions, with fair methods of handling of laborers, with the improvement of personal character and individual efficiency. Why should not M. I. T. include more instruction in human engineering in its regular curriculum? Why should it not promote a great congress in human engineering next fall, which would help to define and standardize the subject for the whole country. During the past year about 30 of the students have been engaged in practical industrial service. Why should there not be at least 200 next season? There never was a day when America was so greatly in need of the best help which college men all over the country can give. Real preparedness lies in the realm of the social and economic. Men can never be fully prepared until some of the vital industrial problems have been solved. It is both a challenge and a strategic opportunity."

The next speaker was Dr. Charles R. Mann, formerly of the Carnegie Foundation for the Advancement of Teaching, who has recently been appointed to the Faculty of the Institute for the purpose of making a study of teaching at Technology. Dr. Mann spoke in part as follows:

"No one can visit the Massachusetts Institute of Technology without becoming conscious of the fact that what you call the 'Spirit of Technology' is a very real and omnipresent thing. But though everyone feels this spirit, it is not an easy matter to define it and state concretely wherein it really consists.

"There can be little doubt that the spirit of Technology was infused into the Institute by its first President. It was his broad and comprehensive conception of engineering and the missionary zeal with which he devoted himself to its realization that inspired the Institute with the ideals for which it stands. It is not only our privilege to keep alive this spirit, but it is also our responsibility to expand and develop it in conformity with the progress of science and industry.

"To President Rogers engineering was science applied to production and the function of the engineering school was, therefore, to supply the intellectual element in production. In his time production was in sore need of scientific information. Very little science was taught in colleges and practically none in the secondary schools. Therefore the school was organized to teach the fundamental principles of science and to enlighten manufacturers in scientific methods and processes. The vitality of the school, therefore, came from its determination to put science to use.

"This conception of engineering as applied science was adequate to the needs of production in 1861. Since then industry has developed marvelously and industrial processes have become more and more complex because of the rapid increase in scientific knowledge. In addition the law of diminishing returns and competition have made it impossible to conduct industry with the same disregard of economy that was possible fifty years ago. As a result the controlling element in production today has come to be the appraisement of values and costs. Hence the engineer is no longer merely an applied scientist, but is the one who must also be able to balance intelligently utility values against costs.

Every engineering project presents the three-fold problem of materials, of men and of management. The engineering schools at present instruct their students with considerable success in the properties and laws of materials. They also devote a little attention to the science of management. They pay, however, practically no attention to the question of values and costs of materials and management and omit altogether the consideration of the problems of human labor. Yet it is these problems of the human values to be secured from materials, management and labor that are the most interesting for the students and the most vital to the success of engineering work.

"Modern engineering, therefore, differs from the older engineering by the prominence which now attaches to the appraisement of values and costs in all their phases. The function of the engineering school is, therefore, no longer merely to supply the intellectual element in production, but this must be supplemented with a vital introduction to the problems of values. The inclusion of this conception in President Rogers' definition furnishes a new ideal which, if carried out with the same enthusiasm that has been devoted to the old ideal, will make Technology the leader in prog-

ress for the next fifty years as she has been for the past half century."

A committee of five was appointed by the chair to consider the advisability of holding a congress of human engineering on the occasion of the dedication of the new Walker Memorial.

On motion of Henry Morss it was voted that the Council of the Alumni Association is in favor of universal military training and it was further moved and voted that the secretary be instructed to send at once to all the Massachusetts members of the association a petition to the President and the Congress for suitable legislation to bring this about.

Mr. Hunter raised the question as to whether or not the TECHNOLOGY REVIEW is of such a character as to fill our needs and suggested that it might be changed to a by-weekly or weekly publication.

A special committee was appointed by the Council to advise the undergraduates on the conduct of the proposed Sunday afternoon powwows to be held in the new Walker Memorial next year.

Weekly Luncheons of the Technology Club of Chicago

The Technology Club of Chicago still holds its weekly luncheon meetings on Tuesdays, holidays excepted, at the Chicago Engineers Club, 314 South Federal street, from twelve to two. All Tech men are welcome. During President Montgomery's administration the average attendance has increased and the interest has grown to a marked degree. The service of the Engineers Club is excellent and special tables are reserved for the use of the Tech men.

Major Cole, the great booster for the Tech branch of the Harvard Coöperative Association suggests that we notify the alumni that they are eligible for membership in the coöperative association, on payment of \$1 initiation fee. Through his energy there are now 1,875 members of the Tech branch. There is about 9 per cent. saving in one's ordinary purchases and if members so desire they can have charge accounts.

CHANGE IN BY-LAWS

Alumni Council finds it desirable to make fiscal year of Alumni Association coincide with that of the Institute

At the March meeting of the Alumni Council it was voted to change the by-laws in accordance with the report of a committee appointed for this purpose. In accordance with the provision of the by-laws notice of this change is here given. Changes are indicated by italics in proposed text.

BY-LAWS (*Present*)

ARTICLE I

Elections

SECTION 1. (Revised 1910.) Prior to October 10 the Nominating Committee shall transmit to the secretary nominations for the offices to be filled and nominations for term members of the Corporation of the Institute. The nominations for election to the Corporation shall be at least double the number of places to be filled. The secretary shall publish the nominations transmitted by the Nominating Committee in at least one daily paper in the city of Boston before October 15. Additional nominations for any office or for election to the Corporation, signed by at least thirty members of the association entitled to vote for such nominees, shall be placed on the official ballot by the secretary if received by him before November 5.

SECT. 2. Prior to November 20, letter ballots containing the names of all candidates shall be sent by the secretary to all members of the association entitled to vote for such candidates. In order to be counted, a ballot must be returned to the secretary, enclosed in an envelope indorsed with the voter's signature and class. The polls shall close December 20, and the Executive Committee shall thereupon canvass all ballots and announce the result. The candidates receiving the largest number of votes shall be deemed elected. Should there be a failure to elect on account of a tie, the tie shall be resolved by lot drawn by the secretary.

SECT. 3. (Revised 1910.) At least thirty days before the March meeting of the Corporation, the secretary shall send to the Nominating Committee of the Corporation the names of the candidates receiving the largest number of votes for election to the Corporation, in number the same as the number of places to be filled.

SECT. 4. If any vacancy occurs among the term members of the Corporation through death, resignation or otherwise, the Alumni Association shall choose for each vacancy a candidate according to the provisions of section 2 of this Article.

SECT. 5. (Revised 1910.) Only members of the Alumni Association whose class has been graduated at least five years shall be entitled to vote for term members of the Corporation.

SECT. 6. Nominations for representatives to the Council shall be made by the organizations which they represent, but the Executive Committee shall have charge of all balloting for election thereof.

BY-LAWS (*As Proposed*)

ARTICLE I

Elections

SECTION 1. (Revised 1910.) Prior to *February 1* the Nominating Committee shall transmit to the secretary nominations for the offices to be filled and *names to be presented* for nomination for term membership on the Corporation of the Institute. The *names to be presented for nomination* to the Corporation shall be at least double the number of places to be filled. The secretary shall publish the nominations transmitted by the Nominating Committee in at least one daily paper in the city of Boston before *February 15*. Additional nominations for any office or for *nomination* for the Corporation, signed by at least thirty members of the association entitled to vote for such nominees, shall be placed on the official ballot by the secretary if received by him before *March 5*.

SECT. 2. All members of the association shall be entitled to vote except that only members whose class has been graduated at least five years shall be entitled to vote for nomination for term membership on the Corporation.

SECT. 3. Prior to *March 20*, letter ballots containing the names of all candidates shall be sent by the secretary to all members of the association entitled to vote for such candidates. In order to be counted, a ballot must be returned to the secretary, enclosed in an envelope indorsed with the voter's signature and class. The polls shall close *April 20*, and the Executive Committee shall thereupon canvass all ballots and announce the result. The candidates receiving the largest number of votes shall be deemed elected.

Should there be a failure to elect on account of a tie, the tie shall be resolved by lot drawn by the secretary.

SECT. 4. (Revised 1910.) At least thirty days before the June meeting of the Corporation, the secretary shall send to the *Secretary of the Corporation of the Institute* the names of the candidates receiving the largest number of votes for *nomination* for the Corporation, in number the same as the number of places to be filled.

SECT. 5. If any vacancy occurs among the term members of the Corporation through death, resignation or otherwise, the Alumni Association shall choose for each vacancy a candidate according to the provisions of section 3 of this Article.

SECT. 6. Nominations for representatives to the Council shall be made by the organizations which they represent, but *in the event of their failure to exercise this right prior to May 1, the Executive Committee may appoint representatives of the local organization.*

Tech Ambulance for France

At a meeting of the Technology Club of New York in March the needs of the American Ambulance Service in France were presented and \$500 was immediately subscribed toward the purchase of an ambulance. In the meantime Mrs. Edward Cunningham had become interested in the same object and, on learning through Dr. Maclaurin of the action of the New York club, she sent her check for \$1,600 which is sufficient to provide an ambulance and maintain it for a year. A plate is to be affixed to the ambulance, bearing the inscription, "Given in memory of Edward Cunningham, M. I. T. 1891." The arrangements were made through the American Ambulance Field Service in France.

Mr. Cunningham was a term member of the Corporation for five years and was always keenly interested in his Alma Mater. About eight years ago, when pressure for funds began to be critical, Mr. Cunningham was one of the first to produce results in raising about \$20,000, early in 1909. There was no limit to his willingness to serve the Institute, although his health, even then, was a serious handicap. The New York club feels honored in having this part in establishing such a fitting memorial to Mr. Cunningham.

It is hoped that an ambulance unit will be arranged among Tech men and that one of the drivers will be placed in charge of this ambulance.

REPORT OF THE SECRETARY-TREASURER

The year's alumni record presented at the January meeting of the Alumni Council—Financial report and reports of special committees

MEMBERSHIP:

The membership of the Alumni Association on December 31, 1916, was 7,484, made up of 5,964 graduates and 1,520 associate members of whom 347 are life members. In addition to these, we have on our roll five honorary members. Our increase in membership is 374. By death our number of life members has been reduced by one.

During the past year, dues have been received from 4,027 members, which is 56.5 per cent. of our membership. This is more than 4 per cent. larger than last year. This is particularly encouraging because, as the Committee on Collection of Dues and Increase of Membership will report, fewer notices have been sent to the alumni in regard to dues this year than in the past year.

ATTENDANCE:

The average attendance at the Council meetings during the past year was 45 members. As there has been no special meeting of the Council only the regular eight meetings have been held.

REPORTS OF THE PAST YEAR:

Several important reports have been presented and accepted. The final report of the Committee on Dormitories was presented and accepted at the annual meeting last January. This was printed in the TECHNOLOGY REVIEW in February. The final report of the Walker Memorial Committee was presented and accepted. At the October meeting, the report of the treasurer of the Reunion Committee was accepted and the Council voted to recommend that the Corporation of the Institute appropriate an amount necessary to cover the deficit of the Reunion from the Alumni Fund, in view of the fact, that enough subscribers to this fund had indicated their willingness to have their own subscriptions devoted to this purpose. In November the report of the committee in charge of the Historical Collection and Exhibition was accepted and it was voted by the Council to authorize the appoint-

ment of a standing committee to be charged with this collection and exhibit.

POLICIES:

The Council during the past year has authorized its regular nominating committee to present nominations for the various standing committees in place of appointing an informal nominating committee as has happened heretofore. The Council has voted to have the year of each administration more nearly coincident with the school year of the Institute. The Council has voted to invite the past presidents of the association to attend all meetings of the Council. It has also invited the bursar of the Institute to attend the meetings of the Council. The procedure in regard to the appointment of a regular nominating committee having been challenged, this matter was referred to a special committee and this committee, made up of past presidents of the association, reported that in their opinion it was inadvisable to change the method of electing the nominating committee. The Council endorsed their report.

EVENTS:

The one great event of the year, which is in everyone's mind, is the Reunion and a complete and inspiring report of this is to be found in the July number of the *REVIEW*.

During the past year, the Council celebrated its fiftieth meeting, when the past presidents of the association, who were present, reviewed for the Council their respective administrations, aims and accomplishments; also made some suggestions regarding the future policy of the Council. When Doctor Maclaurin addressed the Council at this fiftieth meeting, he spoke of there being great problems ahead for the Institute to solve, which should broaden the outlook of Technology. He suggested that if the Council would suggest ways and means of solving these problems, it would be helpful and the Council itself would then have large problems before it.

A number of the meetings have been devoted to the discussion of plans for the Reunion and members of the Council will remember pleasantly that in the March meeting a masked undergraduate quartette appeared and sang songs for the Council.

The Corporation of the Institute, through the President, invited the Council to assist in choosing delegates to represent the

Alumni Association at the dedication of the new buildings in case weather required that the exercises should be held within the buildings, when it would, of course, be necessary to limit the number to attend the dedication.

During the year the Council made a recommendation that academic costume for the Institute be defined and a committee was set up for this purpose, but as subsequently the Institute Faculty defined academic costume for Technology this committee was discharged without making a report.

During the past year Professor Miller, '86, head of the department of mechanical engineering, has told the Council about the wonderful new engineering laboratories and one evening was devoted to visiting the laboratories.

The secretary of the Technology Christian Association, Mr. Cushman, has told the Alumni Council its purpose and what work has been undertaken by this association. On the same evening, Professors Burton and Sedgwick addressed the Council on this important work.

Toward the end of the year, Doctor Hale, '90, addressed the Council on Industrial Preparedness, a formal committee was appointed to consider the program and carry out as far as practicable suggestions made by the first committee at the meeting in December.

FINANCES:

During the past year over one hundred thousand dollars has been handled by the Alumni Association. Of this amount, over \$90,000 is due to the expense of the Reunion. In connection with the Reunion there was a deficit of practically \$20,000. The Alumni Association is grateful to the Corporation of the Institute for meeting the deficit of the Reunion from the Alumni Fund.

The dues of the association are divided into two parts; one-half is credited to the use of the association for its work, the other half is appropriated to the account of the TECHNOLOGY REVIEW. The finances of the association in its work this year show a profit due to the fact that the effort of the association has been concentrated upon the Reunion during the past year and there have, on that account, been fewer committees undertaking general work with any expense. When one takes into account the size and quality of the July number of the TECHNOLOGY REVIEW, he is not surprised to find a deficit in the accounts of the REVIEW.

The balance in our surplus account at this time is on the wrong side and shows a deficit of approximately \$500. On this account, if for no other reason, the Committee on Membership and Dues has had a notice sent to all who have generously subscribed as Sustaining Members of the Association, to invite them once more to contribute as such.

The books of the treasurer have been audited by the Auditing Committee, appointed by the Executive Committee, through their certified public accountant and have been found to be correct. The certified statement of the accountant is in the hands of the Auditing Committee.

WALTER HUMPHREYS,
Secretary-Treasurer.

BALANCE SHEET

January 1, 1917

Assets:

Cash	\$325.42
Accounts receivable	1,854.51
Inventory	454.04
Furniture and fixtures	457.88
Expense paid in advance	48.32

Total assets \$3,140.17

Liabilities:

Notes payable	\$500.00
Accounts payable	2,715.87
Income in advance	406.00

Deficit 481.70

\$3,621.87 \$3,621.87

Income:

Sustaining membership, 1916	\$1,925.00
Dues, 1916	4,027.00
Back dues	632.50
Interest and discount	250.91
Other income	1,069.66
REVIEW subscriptions	3,701.17
REVIEW advertising	3,508.28
	<hr/>
	\$15,114.52

Expense:

Secretary's salary	\$500.00
Labor	1,830.62

Postage and Printing	\$1,587.89	
Stationery and supplies	323.75	
Carfare, telephone and telegraph, etc.	35.15	
Traveling expense	114.15	
Collection expense	22.28	
Council expense	84.66	
Miscellaneous expense	167.35	
Field manager (traveling expense)	217.81	
Banquet, 1916	34.43	
Editor's salary	1,000.00	
REVIEW paper and printing	9,811.49	
10 per cent. depreciation, furniture and fixtures	50.88	
		<hr/> 15,730.46
Operating loss for the year 1916	\$665.94	
Surplus account, January 1, 1916	184.24	
		<hr/>
Net deficit, January 1, 1917	\$481.70	

Report of the auditors appointed by the president of the Alumni Association, as provided in the constitution, to examine the books and funds of officers and committees holding funds of the Alumni Association:

January 29, 1917.

ALUMNI ASSOCIATION OF THE MASSACHUSETTS INSTITUTE OF
TECHNOLOGY, CAMBRIDGE, MASS.

GENTLEMEN:

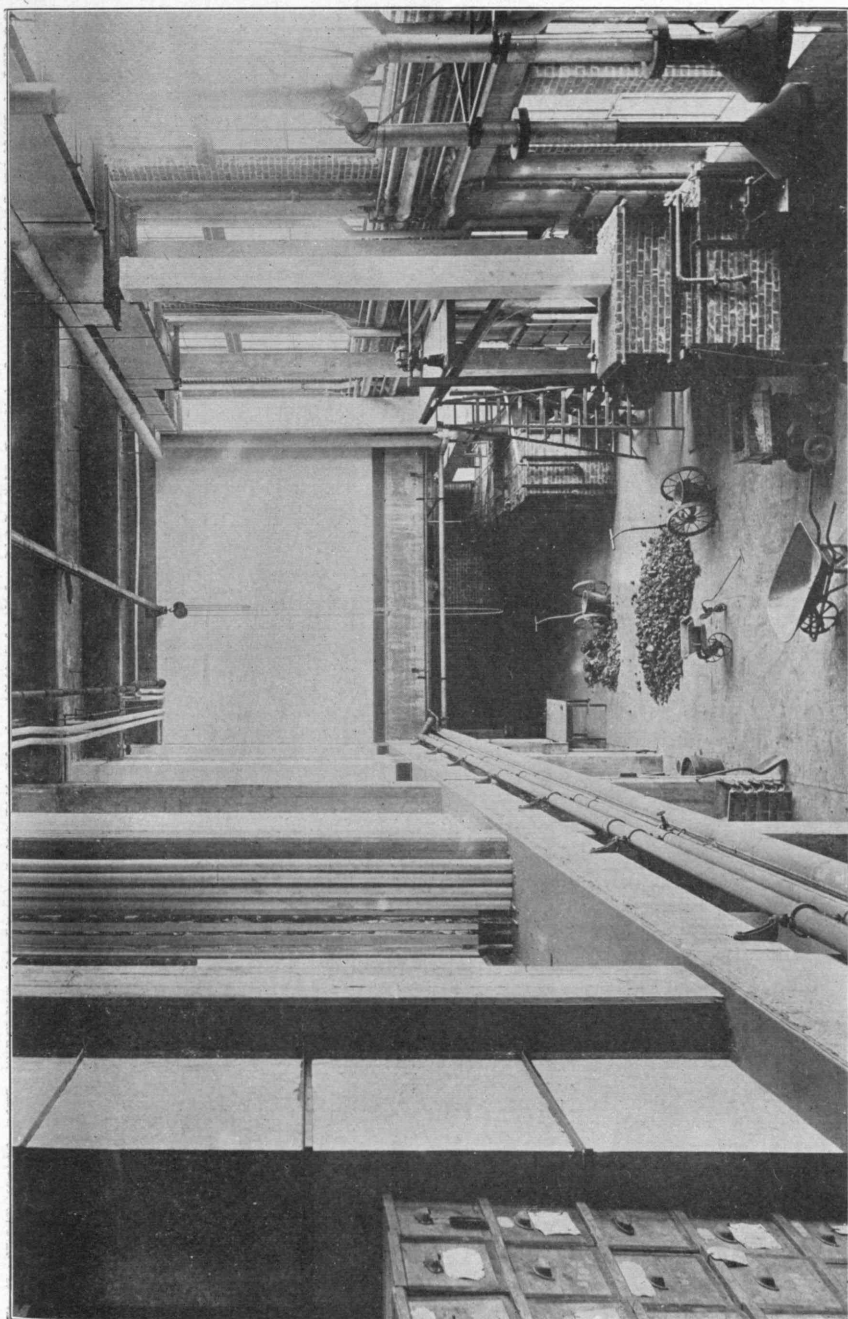
We have personally checked the securities held by the Committee on Permanent Funds. We have, in connection with our audit, employed the firm of Harvey S. Chase & Co., certified public accountants, to make a detailed investigation of the accounts of the Alumni Association, which report we append hereto. In accordance therewith we find the accounts of the association correct and in a satisfactory condition.

Very truly yours,

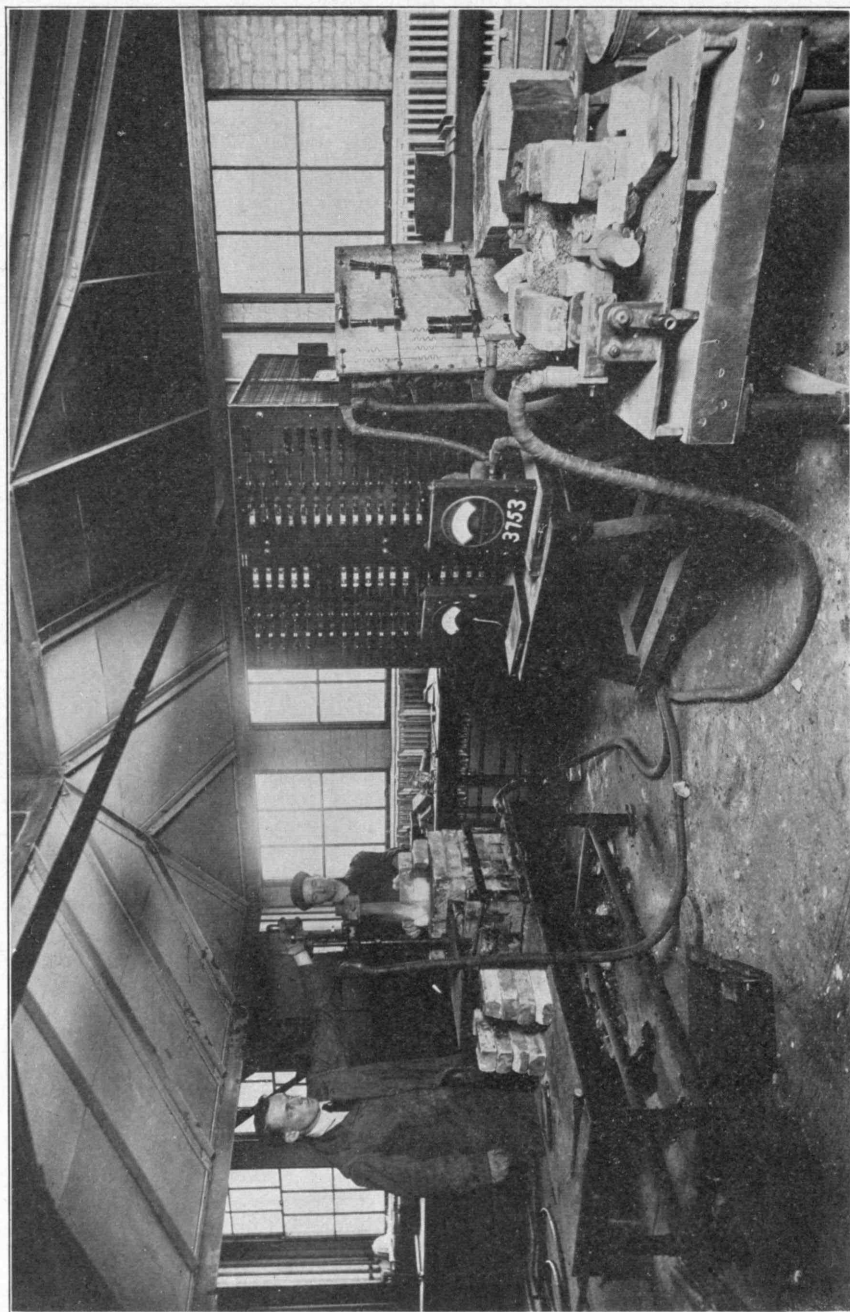
Signed: JOSEPH H. KNIGHT.
W. K. LEWIS.

COMMITTEE ON PERMANENT FUNDS—ANNUAL REPORT

The Committee on Permanent Funds has loaned, during the past year, \$3,125 from the Rogers Fund to thirty-three students. There has been collected \$1,210 from nineteen former loans, and



LABORATORY OF FIRE METALLURGY, LOOKING WEST



ELECTROCHEMICAL LABORATORY, MAKING SILICON

interest to the amount of \$63.58. There is available now in the bank \$1,246 for scholarship loans.

During the past year one note of \$100 has been charged off because of the death of the beneficiary.

The new School of Chemical Engineering Practice has made a request that awards be made to two students for traveling expense and board to the amount of \$200 each. Your committee finds that such a use of the Rogers Fund money was mentioned when this memorial fund was first discussed. The committee, therefore, will make such grants and believes that by it the Rogers Fund will become a greater educational fund.

The committee recommends that in addition to the 10 per cent. of the increase of the Rogers Fund, which is transferred every year to the capital account according to the vote of January, 1915, 10 per cent. of the money paid back on the loans be added to the capital annually, from January 1, 1917.

The Life Membership Fund has gained by money received from four life members, as well as its percentage of income.

The Alumni Fund has been increased by income to the amount of \$30.37 and has been reduced by no payment during the year.

The books of the treasurer have been examined by a certified public accountant.

The following is a statement of the accounts:

BALANCE SHEET

JANUARY 1, 1917

Assets:

Cash	\$1,963.46
Stocks and bonds	18,595.00
Personal accounts	8,587.50
Income in suspense	200.00
	<hr/> \$29,345.96

Liabilities:

Rogers Scholarship Fund capital	\$10,193.95
Rogers Scholarship Fund loan account	9,833.53
Life Membership Fund capital	8,218.55
Alumni Fund capital	991.93
Accounts payable	108.00
	<hr/> \$29,345.96

WALTER HUMPHREYS,
Treasurer.

STATEMENT M. I. T. ALUMNI FUND

To DECEMBER 31, 1916

Liabilities

Subscriptions to Oct. 1, 1916 (previous report) less \$20,000 paid	
M. I. T., account new site.....	\$397,246.92
Additional to Dec. 31, 1916.....	82,599.63
	<hr/>
Total subscriptions.....	\$479,846.55
Net income to Oct. 1, 1916 (previous report).....	\$21,804.59
Additional to Dec. 31, 1916.....	335.61
	<hr/>
Total income.....	\$22,140.20
	<hr/>
Total fund.....	\$501,986.75
	<hr/>
<i>Assets</i>	
Cash in First National Bank—open account (2 %)	\$52,314.69
Expended on account educational equipment (appropriated).....	340,000.00
Expended on account Walker Memorial.....	50,000.00
Expended on account dormitories.....	40,000.00
Expended on account Reunion.....	19,672.06
	<hr/>
	\$501,986.75

January 5, 1917.

RUNKLE PORTRAIT

TO THE COUNCIL,

ALUMNI ASSOCIATION, MASS. INST. TECHNOLOGY.

The committee on the Runkle portrait fund begs to report progress as follows:

The committee has applied to 1,339 members from A to P including a few in R, and from the classes of 1868 to 1891 inclusive.

The committee has received subscriptions from 424 members.

The total receipts amount to.....	\$1,424.00
Postage and stenographic service.....	150.81
	<hr/>

Leaving balance for artist, framing and other expenses \$1,273.19

The next work of the committee is to select the artist and for this a number of good names are at hand. The committee will ask advice in the selection from those best qualified to give it.

Respectfully submitted,

Signed: ROBERT H. RICHARDS,
Committee.

THE NEW FLAGPOLES

All those fortunate ones who have stood in the great "piazza" of St. Mark's in Venice, facing the Cathedral, have been entranced by the beauty of the magnificent composition before them. Not the least important features of the picture thus presented have been the two beautifully wrought bronze bases which supported the tall flagpoles, from the heads of which floated enormous Italian flags in their gay colors.

In the same way, similar important adjuncts to the design of the New Technology Buildings have been made possible through the generous gifts of two poles with appropriate bases by the classes of 1885 and 1892, and an architectural effect is assured comparable to that obtained at St. Mark's.

The flagpoles will be erected at the entrances to the du Pont and Lowell Courts—on the axes and midway between the flanking pavilions. Their lofty height of over one hundred feet will serve to lift the eye from one pavilion to the other, and thus to the dome, performing an important architectural as well as a highly decorative function.

The bases are composed of Indiana limestone, cut to an octagonal plan in the form of seats surrounding each pole, and raised from the ground level by granite steps. The backs of the seats are paneled and form the vertical faces of solid octagonal bases which receive the ornamental bronze collars.

The bronze work is the result of fine craftsmanship, and consists of embossed designs covering the major portion of each base with figures in high relief, incised decoration on all important mouldings, and the upper portion terminated by flutes. Each collar bears an appropriate inscription in raised letters. From these bases emerge the tall vertical Oregon pine poles, cut to a diameter of twenty inches at the bottom and tapering to the tops, which are surmounted by gilded copper balls.

The work of excavation for the necessary foundations has begun, and considerable progress will be noted from day to day. They must be ready in all their completeness—pole, collar and stone base—by June 1, 1917, preparatory to the unveiling by the two classes of the alumni who have stood sponsors for them, and on that day the American flag and the state flag of Massachusetts will be unfurled with fitting ceremony.

Enough praise cannot be rendered to Charles W. Eaton, '85, S. M. Braman, '92, and Professor W. A. Johnston, '92, for their perception in realizing the importance of these permanent additions to the New Technology buildings, and for their zeal in collecting the necessary funds from their classmates.

Much still remains to be done in all three courts in the way of trees, planting, stone seats and foundations, which it is confidently expected the alumni classes will contribute as time goes on.

—H. E. KEBBON, '12.

Intensive Naval Architecture Studies

Forty-one students at the Institute have started in on the intensive course in naval architecture which is to last ten weeks and demand of the students a full ten-hour day of study and work. The course is one that has been prepared at short notice by Professor C. H. Peabody, head of the department of naval architecture and marine engineering, for the purpose of filling an urgent need that exists for draftsmen in navy yards and shipbuilding yards. The young men who successfully complete this course have positions assured to them at once where their special talents will be used to the advantage of the nation.

The course is one that fits in exceedingly well with the others at Technology, for at the Institute the authorities insist on a foundation of mathematics and general engineering studies that permits of a number of special superstructures according to the wish or circumstances of the student. Thus it is the new course appeals to civil and mechanical engineers, architects who have taken work in construction and a few other options, and it is from these that the registration has been made up. The electrical engineers see their best use to the nation along the lines of the signal corps and, accordingly, have not joined in any number.

The work of the new course will be conducted by Prof. C. H. Peabody together with George Owen, assistant professor of naval architecture, and Evers Burtner, instructor. There will be two hours a day of lectures, five hours in the drafting room and three hours of preparation. Professor Peabody's lectures will discuss the fundamental propositions of shipbuilding, displacement and

stability, the coefficients of safety, the theory of launching and questions pertaining to power and speed of ships.

The lectures by the head of the department will be supplemented by other lectures by Professor Owen, which will be, in reality, explanations of the problems in drawing, and together with instructor Burtner the work with the drawing table will be conducted for the major portion of the time. This will begin with the ships' lines, next will come the designs of merchant ships for different purposes and there will be included determination of sizes and properties. Next will come special problems, like launching, and here it may be said that while launching a ship seems to be to the layman merely a mechanical problem, still everything about a ship is drafting and the preparations for the final launching must be laid down at the drawing table. The students will in addition be required to pass three hours a day in preparation which will consist largely in reading.

Through some confusion of the many interests brought to the fore by the declaration of war, an impression has been spread abroad that there is some disagreement between the department of the Navy and the Institute. The contrary is true, since Admiral D. W. Taylor, U. S. N., within whose special ken come such matters as this course, has expressed himself as heartily approving it.

The Technology Club of Chicago

The Northwestern Association of the Institute of Technology has recently done two important things: it has changed the name of the club to "The Technology Club of Chicago" and is issuing a bulletin giving news of the club and its various members and the more important happenings connected with the Institute.

It is intended to supplement the news of *THE REVIEW* in a timely manner and to boost the Institute by disseminating news relating to its progress, and by finding business opportunities for those of its members who are looking for them. It is similar in size to the bulletin of the Technology Club of New York and is bound to prove a great source in building up the Technology Club of Chicago. The form and the matter are both excellent.

The Northwestern Association was formed many years ago and at that time took in a large part of the United States. As other local associations were formed the territory of the club became

more restricted until it seemed to be desirable to localize it in Chicago.

We hope the time will come when every association of respectable size will publish a bulletin, even if only one issue a year.

Wise Suggestion on Universal Training

Senator Weeks has presented to the Senate the following resolution, signed by President A. Lawrence Lowell of Harvard, Richard C. Maclaurin of the Massachusetts Institute of Technology, L. H. Murlin of Boston University, and Herman C. Bumpus of Tufts College.

"We, the undersigned, would not put the slightest obstacle in the way of thorough and adequate training of every citizen for duties which his country may require of him. We would, however, call the attention of Congress to the fact that young men at a given age are not equally matured and that, therefore, the requirements of one period of months of continuous service after a particular birthday would cause needless hardship.

"We, therefore, urge that several years' option be given each individual, so that his training may come at some desirable stage in his education or occupation.

"We would also recommend a division of continuous training into periods of three months, connected and continued by such instruction as may be deemed wise. Thus there will be thereby not only a saving to the government, but, as many occupations have three months' periods of slack work, a valuable adaptation to individual conditions."

Errata

In the January number of the TECHNOLOGY REVIEW there was an error on page 19 wherein the donor of \$50,000 to the endowment fund of the Institute, at the banquet last June, is erroneously described as Edwin D. Adams. Mr. Edward D. Adams, '69, was the donor of this sum which was the last amount needed to bring the total to \$1,000,000. Mr. Adams is prominent among the contributors to good works in New York City but perhaps no gift that he has ever made has the same significance as that which rounded out the great banquet contribution and, with Mr. Smith's additional gift, made a record for spontaneous giving of \$2,666,000.

A FACULTY COMMITTEE ON INTROSPECTION

It will be charged with the duty of improving the methods of instruction and considering ways and means

President Maclaurin announces a step forward in methods of education, by establishment of a body within the Institute whose function it shall be to seek means of improving the methods of instruction. This committee is to be a permanent one and the Institute has selected for its chairman, Dr. Charles R. Mann of the University of Chicago.

In order that the purposes of new committee may not be misunderstood, President Maclaurin himself thus outlines the history of the new step: At the beginning of the present academic year the President of the Institute appointed a committee on research composed of members of the three Institute bodies, Corporation, Faculty and alumni. The function of this committee is to consider ways and means of encouraging advanced study and research within the Institute. In recent years the main energies of Technology have been directed towards the building up of a great plant on the banks of the Charles. This, of course, has involved an immense amount of labor on the part of all concerned and not least among the Faculty many of whom have spent weeks and months in planning laboratories and their equipment and later in supervising the installation of that equipment. As a result of this, the Institute now has a unique plant with immense laboratories equipped with all kinds of machinery unsurpassed and indeed in many respects unequalled anywhere in the world. The problem is, of course, to make the most of this splendid equipment and to organize the Faculty in such a way that its members may work together most effectively for the great ends of advancing knowledge as well as of giving instruction. The committee on research deals particularly with the advancement of knowledge. Coöperating with this committee there was established almost simultaneously a research committee of the Faculty under the presidency of Dr. Noyes, '86, formerly acting President of the Institute. It is the intention to make the Faculty committee a permanent one. Its labors have already borne fruit in changes of Faculty rules. Various restrictions that have limited the supply of men who were

WHERE THE FACULTY STANDS

Where the authorities of the M. I. T. stand in the matter of preparedness is well set forth by the resolutions passed at its recent meeting, the text of them being the following:

WHEREAS, The nation is now at war and must therefore receive the aid and the coöperation of its states and their many organizations; Be it

Resolved, That the Faculty of the Massachusetts Institute of Technology hereby records its desire to assist and coöperate with the President and the Congress of the United States by affording every opportunity for students to enter for sufficient reasons the service of the United States before the end of the term.

In order that its seniors may be available for military and civil service, it is voted that the candidates for graduation who were clear at the time of the declaration of war, upon entering the service of the country, be excused from further exercises of the term, and be at once recommended for their degree. It is further voted that the cases of other seniors be referred to the Committee on Faculty Business with power to act.

It is further voted that students of all classes who, at the time of the declaration of war, were members of the National Guard, Naval Militia or similar organizations, will be granted leave of absence upon being ordered into active service. If they return to the Institute at the beginning of a school year, they will be admitted provisionally to the work of their next year. Upon showing their ability to carry on advanced work they will be excused from the remaining work of the current term.

With reference to students below the fourth-year class the Faculty strongly urges that they remain at the Institute and complete their technical training. It believes that, for them, this is the most effective kind of national service that they can perform. Those who desire to do so will probably have the opportunity to enroll next fall in the four-year military course, which it is expected the War Department will establish at the M. I. T.

Still further in the same direction of affording opportunity for those students who are fit for the work to do service for the Country, the Faculty of the Institute further voted to treat those seniors

who are registered in the new intensive ten-weeks course in naval architecture, of whom there are forty or more, in the same way as if they were enrolled in government service, which will be in effect to excuse them from further exercises in the subjects for which they are registered and to grant them degrees on entering the service.

ACTIVITIES OF LOCAL ASSOCIATIONS

Local centers never before as helpful as now—War preparations subject of constructive suggestions by committees formed for this purpose

BERKSHIRE COUNTY ALUMNI ASSOCIATION.—Some of the M.I.T. alumni, who are living in Pittsfield, Mass., met on Tuesday, March 20, for an informal dinner and smoker at the Park Club of Pittsfield. Dinner was served shortly after 6.30 and the following men were present: George A. Curtis, '04; A. W. Pierce, '92; J. McA. Vance, '91; W. R. Thomas, '87; Paul Frederick, '07; W. L. Root, '96; A. R. Childs, '02; George H. French, '02; Earl E. Ferry, '12.

The talk was mostly on preparedness and the men were fortunate in being able to learn first-hand some of the problems that confronted the American soldiers in Mexico and on the border. First Lieut. Charles Ingraham of Co. F, M. V. M., showed some very interesting stereopticon views of the Mexican border and surrounding country. He told of the needs of the soldier and described the equipment now used and showed how the men at home have just as much a task as the men at the front.

The members of the local preparedness committee are: George A. Curtis, '04; Paul Frederick, '07; George H. French, '02; Edward A. Jones, '87; Charles W. Power, '89; Charles P. Randolph, '10; William R. Thomas, '87; J. McA. Vance, '91.

After the meeting they announced their willingness to do all in their power to aid the general committee.—*Earl E. Ferry, '12, Secretary, 40 Center Street, Pittsfield.*

TECHNOLOGY CLUB OF EASTERN NEW YORK.—A majority of the special committee selected to represent the Albany and Schenectady section of the M. I. T. Alumni Association met March 19, and organized with R. C. Robinson, '01, as chairman. The five members of the committee are: William C. Arsem, '01; William D. Coolidge, '96; Theodore Horton, '94; Ralph C. Robinson, '01; Russell Suter, '00. All present earnestly expressed their willingness to help out the general mobilization committee wherever we could. Dr. Whitney of the general committee met with us.

Several suggestions were made as to how Tech men could help their country to the best advantage at this time. We decided to call attention to the Chamberlain Bill for Universal Service. We feel that this bill should become a law, and that Tech men could do no better service than to bring such pressure to bear upon Congress that it must pass this bill. If all Tech men would only get in touch with their congressman, we could do a lot of real good.

We feel that Tech should at least quadruple her present efforts on aeronautics. The undergraduates should get interested even to the extent of forming a M. I. T. Aeronautic Corps somewhat similar to Yale's. We should not be lagging behind other colleges in this respect. We should lead.

After the first rush of the actual necessities is over Tech men should look into the future. The Smith-Howard Bill before Congress for grant of money to some college or colleges in each state to carry on research work under the general direction of the Bureau of Standards is a great step in advance. Tech men should take up this suggestion with real enthusiasm and again compel Congress to act favorably.

We therefore would suggest to the general committee for their action:

First: That Tech men immediately urge the enactment of the Chamberlain Bill of Universal Service.

Second: That Tech at least quadruple its efforts in aeronautics, and that the undergraduates form an aeronautic corps.

Third: That Tech men look into the future and prevail upon Congress to pass the Smith-Howard Bill, or a similar one, appropriating money for research work.—*R. C. Robinson, '01, Chairman, Local Committee, General Electric Co., Schenectady, N. Y.*

DETROIT TECHNOLOGY ASSOCIATION.—The following members of the local mobilization committee had luncheon together: Messrs. Anthony, Dwyer, Sutter, and the secretary.

The entire committee appointed to serve is: O. W. Albee, '93; G. R. Anthony, '98; Emmett J. Dwyer, '05; E. A. Sumner, '97; Frederick C. Sutter, '93; D. V. Williamson, '10.

The above are fully in accord with the ideas advanced by the general committee, and are willing to do whatever they can to help the Government in the present crisis and to live up to the best of Technology's teachings.

The annual meeting of this association was held at the University Club on February 28. The committee in charge of the dinner—H. S. Morse, '03; Granger Whitney, '87; Frank Davis, '04; D. V. Williamson, '10—instructed the members to leave their glad rags at home and to come instead with glad voices. This they did and music was the feature of the evening. Ross H. Dickson, '14, on short notice organized a highly agreeable musical nucleus of home talent which performed on and off throughout the evening. S. A. Francis, '12, was at the piano and Ken Greenleaf, '11, Roger Hill, '10, Harold Quilhot, '17, Ross Dickson, '14, played their mandolins. Song books were at every plate and we sang as we never did before.

Allen Loomis, '99, gave a highly appreciated act, dressed up as a French soldier, with one arm shot away. After reciting a libretto prepared for the occasion by Granger Whitney, '87, about learning to play an instrument one-handed while lying wounded in the hospital, he proceeded to play the instrument in the manner indicated.

The secretary read a letter from F. A. Smythe, '89, of the Technology Clubs Associated regarding the joint meeting to be held in April at Cleveland which was very enthusiastically received.

A communication regarding rowing at the Institute was read and aroused some interest.

At this meeting a regular form of Constitution was adopted by the organization, as follows:

Fellow-Members:

You probably know that the Detroit Alumni Chapter is now blessed with a healthy Constitution, and believing that you are considerably interested in the affairs of the organization, I am enclosing a copy of said 'stitution.

The fact that I am dubbed "Chairman of the Finance Committee" doesn't necessarily mean that I particularly want to call your attention to Article VI, but nevertheless I hope the fact that you are permitted to contribute from \$1.50 to \$5.00 (according to your last month's bank balance) to a grand and glorious cause will not be entirely overlooked.

It's not the amount as much as the spirit. We're after a one thousand batting average. Please slip your check in the enclosed envelope and mail it today, so your name won't have to go on the "follow-up."

Thanks!

Yours for preparedness and a full treasury,

M. S. DENNETT,
Finance Committee.

P. S.—A lot of live ones are going to Cleveland next month (April 19 to 21). If you can't afford the trip as a pleasure, look at it as a business proposition.

CONSTITUTION AS AMENDED ON MARCH 7, 1917

ARTICLE I

Name.—The name of this organization shall be The Detroit Technology Association.

ARTICLE II

Object.—The object is to promote friendship and social activities among the Technology Alumni in this vicinity.

ARTICLE III

Officers.—The officers shall be a President, Vice-President, Secretary and Treasurer, Chairman of Finance Committee and Chairman of Entertainment Committee.

ARTICLE IV

Administration.—The affairs of the organization shall be managed by an Executive Committee composed of the above mentioned five officers.

ARTICLE V

Membership.—Anyone having been a *bona fide* registered student at the Massachusetts Institute of Technology for any length of time whatever is eligible to membership.

ARTICLE VI

Dues.—The annual dues shall be as follows: A minimum of \$1.50 and a maximum of \$5.00; the amount in any case to be left to the discretion of each member.

ARTICLE VII

Meetings.—There shall be an annual meeting and election of officers held during the month of January.

ARTICLE VIII

Nominations for Officers.—The retiring President shall appoint a Nominating Committee composed of at least two members one month prior to the annual meeting. This Nominating Committee shall present the names of two candidates for each office for competitive election at the annual meeting.

ARTICLE IX

Amendments.—This Constitution may be amended by a two-thirds vote of members present at any regular meeting.

The following officers were elected for the coming year: President, Marvine Gorham, '93; vice-president, O. W. Albee, '93; secretary-treasurer, D. V. Williamson, '10.

Following the business meeting, Mr. Willson T. Orr was presented and gave an exceedingly entertaining talk on the subject of "Memory and Memory Training." Mr. Orr brought out some facts about memory training which aroused keen discussion, and the meeting lingered far into the night with the memory enthusiasts in one group at one side of the hall and the musical enthusiasts in another group around the piano.

The following members were present: H. S. Morse, '03; O. W. Albee, '93; Granger Whitney, '87; Wm. R. Kales, '92; L. E. Williams, '02; E. B. Cooper, '05; Frank H. Davis, '04; Edw. A. Mc-

Gonigle, '95; Henry T. Winchester, '03; A. L. Fischer, '03; Chas. L. Weil, '88; E. R. Cooke, '07; Horace G. Lobenstine, '92; A. L. Moses, '09; Allen Loomis, '99; Geo. D. Huntington, '98; Lewis Davis, '12; Howard T. Graber, '03; E. B. Snow, Jr., '05; Philip C. Baker, '16; Howell Taylor, '14; S. M. Spaulding, '16; Harold Quilhot, '17; Marvine Gorham, '93; Stafford A. Francis, '11; Henry T. Chandler, '14; Charles L. Tuller, '12; M. S. Dennett, '11; Kenneth Greenleaf, '11; Ross H. Dickson, '14; R. F. Hill, '10; Waldso Turner, '05; Currier Lang, '04; Fred. Sutter, '93; D. V. Williamson, '10.

Last winter a very successful Intercollegiate Bowling League was formed here in Detroit, the following colleges being represented: Cornell, Harvard, Wisconsin, Illinois, Ohio State, Technology.

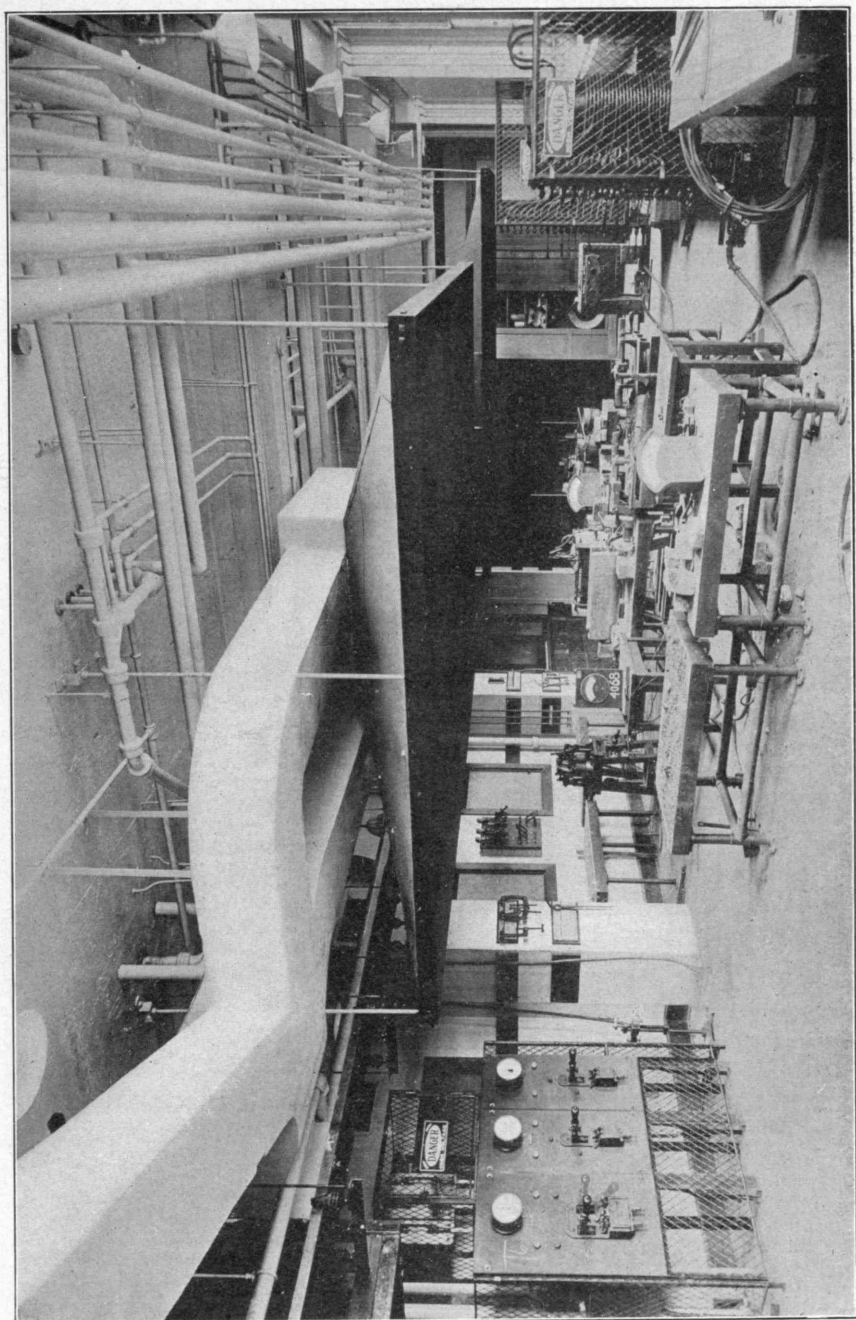
Every Tuesday evening the matches were held in the Pallister Alleys of this city, and before the season was over each team bowled every other team four times. On March 20 a banquet was held at the Palestine Lodge to celebrate the conclusion of the season and to distribute prizes. The order of the contestants at the finish was—1, Ohio State; 2, Harvard; 3, Technology; 4, Cornell; 5, Illinois; 6, Wisconsin.

The following Tech men are the ones who were chiefly interested in this league: M. S. Dennett, '11; C. L. Tuller, '11; J. N. French, '11; H. T. Winchester, '03; Ross H. Dickson, '14; Geo. V. Pottle, '01; A. L. Matte, '09; S. A. Francis, '12.

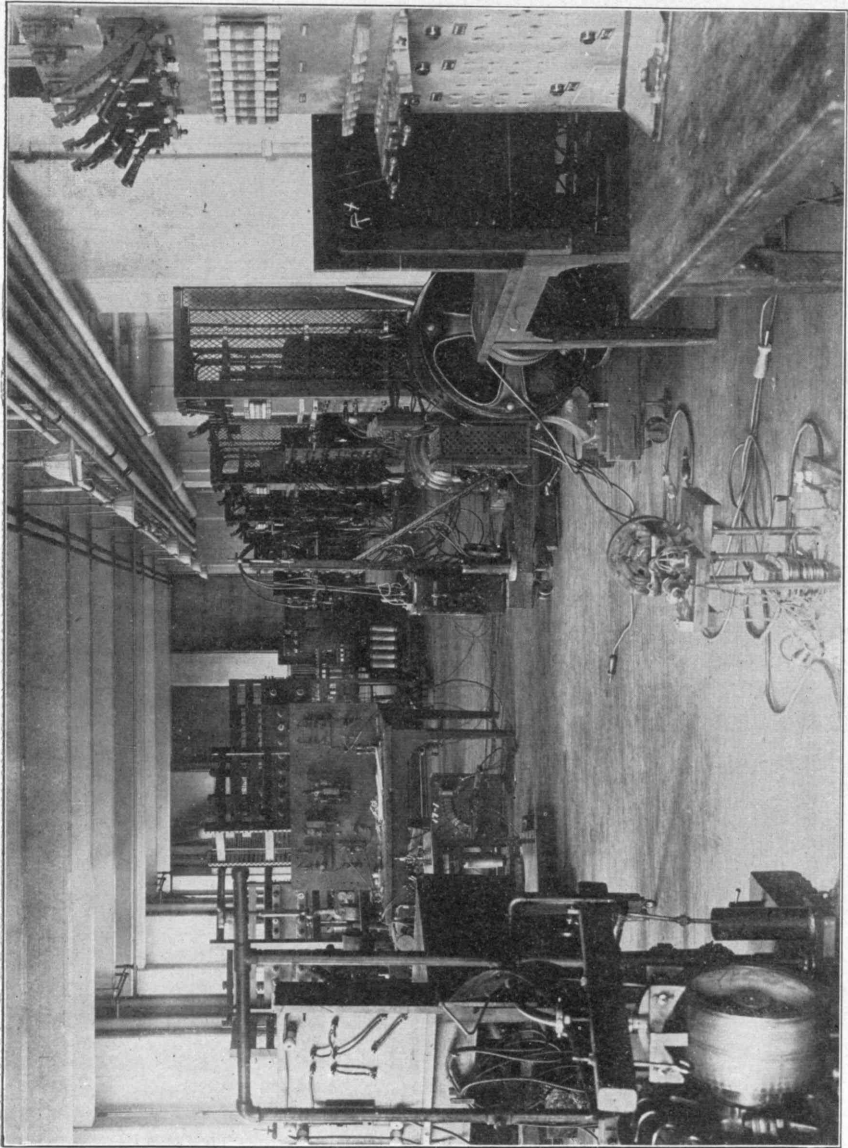
For the past three years it has been the custom of the alumni of American colleges and universities to meet at an intercollegiate luncheon in Detroit. This year the luncheon will be held at Hotel Cadillac on Wednesday, April 11, at 12.15 o'clock. According to reports received from various alumni associations, it prophesies to be the largest gathering of college men ever held in this city. It is anticipated that at least 1,000 men will attend.

Immediately after the luncheon, many of the gathering will attend the opening baseball game at Navin field between Detroit and Cleveland of the American league.

The entertainment committee has already arranged for a most elaborate program of music and addresses. James O. Murfin has been selected as toastmaster and the list of speakers will be given at a later date. For the benefit of the alumni a com-



ELECTROCHEMICAL LABORATORY, WEST END



ELECTRICAL ENGINEERING LABORATORY

mittee of twenty-seven has been appointed for the various colleges. Technology is represented by D. V. Williamson.—*D. V. Williamson, '10, Secretary-Treasurer, Detroit Edison Co., Detroit.*

TECHNOLOGY CLUB OF CHILE.—Things have been moving rather slowly for the Tech Club of Chile since our prime mover John P. Chadwick left us, but here is the dope on what little action there has been:

On November 25, our annual banquet was held in the Santiago Restaurant, Santiago, a good number of the fellows being on hand to celebrate.

We left Sewell in a big snowstorm on Friday night and arrived in Santiago Saturday morning, with a bright, fine, warm day. The afternoon and early part of the evening was spent in motoring round to all the places selling liquid refreshment, and in getting in prime shape for the evening.

At the dinner that evening the following men were in attendance: President W. L. Stevens, '00; Secretary John L. Bray, '12; Hammond, '12; Conner, '14; Brown, '15; Baxter, '15; Gutierrez, '13, and J. S. Eveland, '01, was also able to drop in during the evening.

In many respects the evening was an entire success as may be judged by the fact that the business of the meeting was entirely forgotten and it was only after arrival in Sewell that some of those less affected recalled that no officers had been elected for the year.

This neglect was remedied by holding a meeting on Friday, December 8, 1916, at which W. S. Conner, '14, was elected president, and A. R. Hammond, '12, secretary for the ensuing year.

Our attendance at the annual meeting is not as large as we could wish and we are sure that there are many Tech men within reasonable distance of Santiago who may be able to be with us before another meeting.—*Angus R. Hammond, '12, Secretary, Braden Copper Co., Rancagua, Chile.*

SHANGHAI.—The following letter was received by the secretary of '98, from W. W. Stevens of Shanghai, China, and will be found of interest:

You ask for a letter about myself and my work in China. I think our fellows would rather hear about the other Tech men and matters in general.

You know we formed a Tech club here two years ago; well, last year we amalgamated with the Harvard Club, and then the com-

bination took hold of the University Club here, which had been very quiet before and livened it up so that it has become one of the recognized American bodies in Shanghai. Tech spirit did it.

The University Club is now seeking to organize a federation of Far Eastern University Clubs to be connected with University Clubs at home. There is a big prosperous one in Manila, with its own house; another in Peking where I had the pleasure of attending the annual dinner and dance, and about 200 members, both foreign and Chinese, with their ladies, were present.

There are also little clubs forming—one in Nanking, one in Changsha—there ought to be one in Hankow.

Our greatest difficulty is that so few men are permanently located. We are all pioneering, more or less, and move about so much that it is nearly impossible to keep a staff of officers. At present we have in Shanghai—Tech men, foreigners: W. A. Adams, '08, China Realty Co. Ltd.; F. W. McIntyre, '02, Anderson, Meyer & Co.; F. C. Mabee, '09, Shanghai Baptist College; J. E. Nolte, '98, Standard Oil Co. of N. Y.; R. P. Sherman, '15, Standard Oil Co. of N. Y.; F. R. Sites, '99, U. S. Steel Products Co.; E. T. Williams, '09, Chinese Maritime Customs.

Adams is building and selling houses and land for the real estate department of a big insurance company.—McIntyre represents several American firms in electrical lines.

Nolte is with me in the construction department of Socony, and Sherman is the marine architect for Socony's China fleet.

H. C. Faxon, '08, started in with me, but got transferred to the lubricating department and now has charge of it in Tientsin. T. S. Killion, who used to have charge of Socony's Chinkiang territory, has given it up and returned to the states. G. B. Ott, Jr., '14, is in Hankow for the Standard. H. K. Richardson, '04, who was on the Y. M. C. A. mission in Szechuen, has gone home on leave and may not return. N. Thompson, '14, who was in Tientsin, is now in Kalgan.

The Chinese members I can't tell you much about. They are harder to keep track of as they don't come so much in touch with us as the foreign fellows do.

I met King Yang Kwong, '84, at the dinner in Peking, and he and another Tech Chinese and I gave them a demonstration of the Tech yell when the stunts came. You might not think him young by his class year but he must have graduated young—he looks in

the prime of life. C. Y. Fong, '15, Y. M. C. A., Shanghai; P. L. Fong, '84, Canton Hankow R. R., Canton; M. C. Hou, '14, teacher, Waterworks English School, Nanking; T. P. Hsi, '14, Peking; Y. H. Hsin, '13; M. T. Hsu, '13, Hanyang Iron & Steel Works, Hankow; W. S. Loo, Navy Board, Peking; F. C. Seetoo, assistant naval constructor, Kiangnan Dock (Govt.), Shanghai; S. K. Sik, '13, mechanical department., Hanyang Iron & Steel Works, Hankow; T. P. Tung, '13, Whangpoo Conservancy Board, Shanghai; Y. T. Van, '14, Nanyang University, Shanghai; C. V. Wen, '09, professor of mining, Peking; Y. T. Yin, '17; F. R. S. Yuen, '10; Su Zi, Board of Communications, Peking.

There are probably a lot of others I haven't heard of, and likely some of the above addresses are no longer correct, but that is the best we can do.

Of course we are feeling the effects of the war here in this cosmopolitan community, but all nationalities seem to be getting along somehow, and some, particularly Americans, seem prosperous.

The American community has been largely increased by the opportunities opened by the partial withdrawals of other nationals, and I am glad to believe it is becoming more representative of Americans than it was years ago, as well as more united. We have the American Association, the Chamber of Commerce, the University Club, the American Company of the Shanghai Volunteers, the American Athletic Club, the Bar Association, the American Women's Club, the Slam Club (a card club), the Baseball Club, last but most popular.

Have you read "Our Eastern Question" by Millard? If you are interested in the future of the United States and China read it. —*William. W. Stevens*, '98, *Standard Oil Co. of New York, Shanghai, China.*

TECHNOLOGY CLUB OF DAYTON.—The Technology Club of Dayton held its second dinner April 16 at the Engineers Club of Dayton to make final plans for the action to be taken by the delegation from the club at the Cleveland meeting April 19, 20 and 21. Twenty-four of the 30 members were present, and the final report of the committee on resolutions and suggestions to be presented at the Cleveland meeting was discussed and approved.

The Dayton Tech men have been giving very thoughtful and earnest consideration to the question of Tech's opportunity and

obligation for service in this time of national stress and, from the first announcement of the Cleveland meeting, have been discussing and framing definite, concrete suggestions and resolutions to be brought up for consideration at the big mobilization meeting. The interest that has been aroused by these discussions has largely increased the attendance at the weekly luncheons at the Engineers Club. Two special dinners have also been held to discuss plans for the Cleveland meeting, as well as several meetings a week by the committee on resolutions and suggestions. Secretary Putnam thinks he has perhaps given 10 per cent. of his time to his private business for the past few weeks.—*K. C. Grant, '02.*

The following names were presented to serve on the Dayton mobilization committee: James E. Barlow, '05; R. Wilder Chandler, '12; Charles H. Paul, '96; Edward C. Wells, '92; and the secretary.—*C. D. Putnam, '08, Secretary-Treasurer, 601 Schwind Building, Dayton.*

INTERMOUNTAIN TECHNOLOGY ASSOCIATION.—Our local committee on mobilization has organized with J. H. Leavell, '07, chairman, J. C. Damon, '05, vice-chairman, and W. H. Trask, '06, secretary. The other members of the committee are: S. W. Selfridge, '13; R. W. Senger, '05; H. L. Williams, '06.

This committee has rounded up all the members of the Intermountain Tech Association and with the exception of one or two have had all reports sent in. We are prepared to carry out suggestions of the central committee.

The Naval Reserve Board has taken an inventory of all of the reserves of the Intermountain territory, as far as raw material, plants, machine shops, laboratories, hospitals, etc., are concerned, but if there is any further information along this line that is desired we would be glad, indeed, to get it.—*W. H. Trask, Jr., '06, Secretary-Treasurer, University Club, Salt Lake City.*

THE CINCINNATI M. I. T. CLUB.—At the annual meeting of the Cincinnati M. I. T. Club, held at Mechlenburgs February 24, the greatest part of the time was devoted to the discussion of "National Preparedness" with great enthusiasm. In fact the subject consumed so much of the time, that, although the program called for a large bowling party, there was very little bowling. A committee was appointed with R. W. Proctor, '94, of the Merrimac Chemical Co., as chairman.

The officers for the next year were elected and the results were as follows: President, Stuart Miller, '07; vice-president, George Cowing, '01; treasurer, Charles R. Strong, '11; secretary, Charles Cellarius, care of Tietig and Lee, Fourth National Bank Bldg., Cincinnati, Ohio.

Directors: H. D. Loring, '07; Herman Lackman, '05; Frank Willey, '08.—*Edward H. Kruckemeyer, '11, Secretary, 111 East 4th Avenue, Cincinnati.*

WASHINGTON SOCIETY OF THE M. I. T.—In spite of an unusually cold night there were about thirty-five members and guests present at an interesting meeting which the local association had on February 12. Our orchestra of six pieces meets at one of the houses of the members at least once a month and besides furnishing music for the society meetings it gets considerable personal benefit and enjoyment from the association. I don't know that any other local societies have attempted an orchestra, but we find it to be quite successful. After the rehearsals we usually have light refreshments and discuss and settle all important questions of the day to our own satisfaction.

The following were elected officers for the ensuing year: president, R. B. Sosman, '04, Geophysical Laboratory; vice-president, W. H. Keen, '05, Washington Steel and Ordnance Company; secretary and treasurer, B. L. Johnson, '05, U. S. Geological Survey; member executive committee, F. W. Swanton, '90, Patent Office.

The first meeting of the mobilization sub-committee was held at the home of Robert B. Sosman, 2942 Newark street, Cleveland Park, on the evening of March 21, at 8.15 p. m. William H. Keen was elected permanent chairman and B. L. Johnson was chosen as secretary. The other members are: B. J. Johnson, '05; W. H. Bixby, '70; W. C. Dean, '00; Edwin W. James, '07; W. H. Keen, '05; E. B. Phelps, '99; R. B. Sosman, '04; F. W. Swanton, '90.

Those present were R. B. Sosman, W. H. Keen, E. L. Johnson, E. B. Phelps, F. W. Swanton, W. C. Dean and A. M. Holcombe. Mr. Dean spoke of the Intercollegiate Intelligence Bureau with headquarters at the University of Pennsylvania. Mr. Dean submitted a brief, and read same, outlining the needs of and the opportunities in the Officers Reserve Corps. A discussion of the brief followed. The committee suggested that the Central Committee get in touch with the Intercollegiate Bureau (Mr. William

McClellan, director, University of Pennsylvania, Philadelphia) with a view to coördination of these efforts inasmuch as it appears that this bureau has some official standing and represents a considerable portion of the colleges.

It was moved by Dr. Phelps that the activities of the Alumni Committee on the Mobilization of Technology's Resources should confine itself to the purposes already indicated in its title and announcements and should in particular not include any interference or propaganda in matters of tariff or other political questions. The motion was seconded by Mr. Dean and passed unanimously. It was suggested that manual training high schools vent their enthusiasm in the construction of gauges under the control of the Ordnance Department of the United States Army. A possible future deficiency of armor piercing projectiles was also pointed out.

A resolution urging all members to fill out the questionnaire blank of the central committee and return it promptly was passed.
—*F. Charles Starr, '05, Wilkins Building, Washington.*

TECHNOLOGY CLUB OF RHODE ISLAND.—A meeting of the Technology Club of Rhode Island was held in the rooms of the Providence Engineering Society on Monday evening, February 19, 1917, with the largest attendance which has ever attended a Technology club meeting, except those of the annual dinner.

Mr. Frank B. Gilbreth, consulting engineer, of Providence, gave a most interesting and instructive talk on motion study, which was much appreciated by the members in attendance. Mr. Gilbreth outlined some of the principal methods used in his work, illustrating his talk by lantern slides and graphic diagrams in colors, the diagrams being based on the information obtained from motion picture films. Among the more interesting applications of motion study were the transportation of pig iron, motions of dentistry, and of surgery, typewriting, and the methods of assisting crippled soldiers. The club voted to Mr. Gilbreth a unanimous vote of thanks for his able presentation of the subject.

Following the lecture President Bliss opened a general discussion for the good of the organization, asking for expressions of opinion on the best way to handle the meetings of the club. Many good suggestions were received from the members who responded. Messrs. Eddy, Buttolph, Pierce, Morey, Hiller, Thornley and many others spoke in this connection. Monday evening was decided upon as the best night of the week for the club members.

A vote was passed to meet at the engineering rooms on the evening of March 19, 1917, and to secure a speaker on "The Telephone," also a vote of thanks was extended to the Providence Engineering Society for the use of the rooms.

A social hour with light refreshments followed.

Those attending were Bliss, Benson, Wescott, Buttolph, Naumberg, Pierce, Gates, Hiller, Ballou, R. H.; Dart, Pickersgill, Morey, Thornley, Tobin, Sears, Dickerman, Mackenzie, Eddy, Simmons, Dalton, Pond, Kendric, Dawson, Milliken, Congdon, Hill, Sloan, and Lord.

A meeting of the Technology Club of Rhode Island was held at the rooms of the Providence Engineering Society on Monday evening, March 19, 1917, to attend a lecture on "The Telephone Instrument" by Mr. H. D. Wilcox, stores manager of the Providence office of the Western Electric Company.

Minutes of the meeting of February 19, 1917, were read and approved, and the secretary read the notice of the reunion of the Technology Clubs Associated at Cleveland to be held April 19, 20, 21, 1917.

A letter was received from the Combined Musical Clubs of the Institute relative to holding a concert in Providence during the coming winter, but the matter was rejected as the project was too large for a small club such as ours to finance.

The matter of Technology's Preparedness Campaign was introduced by President Bliss, who urged the members to fill out the information blanks if they had not already done so.

President Bliss then introduced Mr. Wilcox, who gave a very interesting exposition of the telephone instrument, starting with the earlier types and sketching the development to the present time. The talk was illustrated with diagrams and a mounted instrument with complete equipment, which was dissected for the benefit of the members. Many questions were answered and all those present were pleased with the opportunity to learn of the construction details of the telephone.

Following the lecture Colonel Tillinghast of the Coast Artillery Corps of the Rhode Island National Guard addressed the members by special request on the principal features of the state defense, and urged those members interested to enroll, to meet the shortage of technically trained recruits.

The speakers were given a vote of thanks and the meeting adjourned after a very enjoyable evening.—*Clarence L. Hussey, '08, Secretary-Treasurer, 1547 Smith Street, Providence.*

TECHNOLOGY CLUB OF LAKE SUPERIOR.—A local committee to coöperate with the general committee has been appointed by our president, Samuel B. Sheldon, '89. The following local men will act on this committee: W. C. Lounsbury, '03; Charles D. Brewer, '02; Floid M. Fuller, '06.—*F. M. Fuller, '06, Secretary, Torrey Building, Duluth.*

AKRON TECHNOLOGY CLUB.—The following committee of five men has been appointed for the local committee on National Preparedness, and are to be relied upon for keen thought and thorough investigation of any problems put up to them: J. E. Hale, '08; G. W. Sherman, '94; W. N. Drew, '10; J. A. Christie, '10; K. B. Kilborn, '11.

The first meeting was called at the University Club, March 26, to discuss the outline submitted to all alumni committees. G. W. Sherman '94, was elected chairman and W. N. Drew, '10, secretary. C. R. Johnson was present as a substitute for G. W. Sherman and opened the discussion by reading portions of the outline provided by the Executive Committee. In view of the turn of events in the last week or two, the necessity for speed is quite evident and especially on account of the apparent policy of inaction up to the present time. A general feeling was expressed that it is, and will be, a veritable necessity for the Government to place more and more reliance upon committees of experts, industrial as well as military, in shaping its conduct. The time for politicians and pork-barrel politics is past and from now on the Government must be run in a business-like and efficient manner to give the Government its proper place in the civilized world. The following subjects were presented for discussion.

1. What Akron Can Provide for the Country.
2. What Akron Would Need to Maintain this Production.
3. Proposed Tire Standards.
4. Proposed Wheel and Wheel Parts Standards.
5. Use of the Metric System.
6. Research on Tire Design.
7. Classification of the Rubber Industry.

No actual military topics were discussed.

In April, at the meeting of the Technology Clubs Associated, to be held in Cleveland, our committee will be represented and will present the particular subject settled upon as being most suitable for discussion. Possibly, also at that meeting a more definite and crystallized idea will be brought forward on which all the Technology committees will be able to work.

In concluding the meeting it was requested that all members, and Mr. Johnson as well, develop three ideas for discussion at the next meeting which is to be held at the University Club on Tuesday, April 3.

The second meeting was called to order on April 3 at the University Club. G. W. Sherman, chairman of the committee, gave a résumé of the Business Meeting Committee's work in Cleveland, and outlined what might be accomplished at the April 21st meeting of the Technology Clubs Associated. He mentioned the fact that the personnel index already turned in to the general committee was being amplified by some of the local committees and that in this way a more accurate and valuable census of the members would result.

The following subjects were proposed and discussed:

1. What can Tech do in Military Matters?
2. Closer Knit Organization of Tech Men.
3. What is "Preparedness?"
4. What are the "Preparedness" organizations now in existence?
5. Preparedness for Peace.
6. Study of Municipal Problems.
7. Labor Problems.
8. Assistance to Research Council.

The motion was made and carried that Mr. Christie prepare a paper embodying and expanding the ideas expressed on Subject 8, and present an abstract at the Cleveland meeting on April 21, and it was further moved that in the meantime the secretary write to A. T. Hopkins, who is in close touch with the Research Council, and suggest that he endeavor to ascertain from Mr. Godfrey the possibility of utilizing our organization for research along some definite line proposed by the Research Council.

Although this committee has decided upon the most desirable subject for attack, it is suggested that more subjects be presented

for discussion at the next meeting.—*W. P. Keith, '14, Secretary-Treasurer, Goodyear Tire & Rubber Co., Akron.*

ROCKY MOUNTAIN TECHNOLOGY CLUB.—At a dinner given by the Rocky Mountain Technology Club, March 31, the matter of “enlisting the efforts of the Institute through the Alumni Association” was discussed at length, and, in conformity with the request of the general committee, a local committee was selected by the club to render what service was desired of them.

Thereupon, said committee appointed Francis B. Choate, '91, to act as chairman, with other members of the committee as follows: Charles L. Dean, '05; Sidney S. Emery, '93; Frank M. Ladd, '88; S. C. Lind, '02; Frank E. Shepard, '87; Harry D. Smith, '89.

John J. Mullen, former secretary of the club, having left the city, the club conferred the honor upon me. Please feel at liberty to call upon me at any time for whatever assistance I may render Technology.—*Glenn D. Jones, '13, Secretary, 1910 East 22d Avenue, Denver.*

TECHNOLOGY CLUB OF CHICAGO.—The concert of the Combined Musical Clubs, which was given in Chicago on the evening of Wednesday, January 31, 1917, Central Music Hall, was a distinct success, both socially and financially. The theater was filled to about three fourths of its total capacity and the audience embraced a typical representation of Chicago Tech men and their families and friends. The different numbers on the program were received with appreciation and enthusiasm, and encores were frequent. Our total sales and receipts were \$820, total expenses \$713.14, leaving a balance of receipts over expenses amounting to \$106.86. The general arrangements of the concert were in charge of President H. M. Montgomery, '79, and Vice-President Frank F. Fowle, '99, of the Northwestern Association. Valuable assistance was rendered in connection with the publicity work and the sale of tickets by Kenneth Lockett, '02, and D. A. Tomlinson, '12. Thanks are also due to the general committee of class representatives which gave substantial help in selling tickets. A complimentary luncheon was tendered the visiting members of the Musical Clubs at the University Club of Chicago, on January 31, and the visitors made their headquarters at the club during their brief stay in Chicago.

The annual dinner and meeting of the Northwestern Association was held at the University Club of Chicago on Friday evening, April 6, at which about fifty members were present. Owing to the absence of President H. M. Montgomery, '79, the business meeting which followed the dinner was presided over by Frank F. Fowle, '99. The most important matter for consideration was the proposed change of name of the Northwestern Association to Technology Club of Chicago. A number of reasons for considering this change are published on page 2 of the March *Bulletin of the Northwestern Association*. After some discussion the question was put to a vote and it was unanimously voted to change the name to "Technology Club of Chicago," with the proviso that on all club stationery, notices, announcements, bulletins, etc., there shall be placed directly below the name in smaller type: "Massachusetts Institute of Technology" for the purpose of identifying the club with our Alma Mater. It was also voted to incorporate the Technology Club of Chicago under the laws of Illinois and to appoint a committee to prepare a new constitution and by-laws to be submitted later for the approval of the membership. It has been the past experience that the Northwestern Association is able to collect annual dues from only about 40 per cent. of all the Tech men residing in Chicago and vicinity, numbering in toto about 350 resident and 60 non-resident members. In view of this it was decided to consider the desirability of making some change in the scale of dues for the purpose of creating two or more classes of resident members—one class to comprise sustaining or supporting members, the other class to comprise non-sustaining or non-supporting members, with appropriate privileges of membership in each class. As in the past, members living outside of Chicago will also be welcome to the meetings and the weekly luncheon on Tuesdays, at the Chicago Engineers Club, and all who desire to become members will be gladly admitted on a non-residence basis.

Special attention was called to the Cleveland reunion of the Technology Clubs Associated, to be held at Cleveland, Ohio, April 19 to 21, and a number of members of the Technology Club of Chicago were delegated as official representatives to attend the reunion.

The following men were appointed to serve on the local committee of military and industrial preparedness: Harvey S. Pardee, '09; R. A. Allton, '13; H. S. Baker, '03; F. D. Chase, '01; J. M. Frank, '07; Kenneth Lockett, '02; A. J. Ortseifen, '05.

Kenneth Lockett, '02, chairman of this committee, was called upon to explain the activities of the committee and its relation to the Central Committee of the Alumni Association at Boston. Considerable discussion of the present national situation followed and it appeared to be the general sense of the meeting that Tech men are specially prepared and equipped to serve their country in the present emergency, and that they should not be unduly carried away by the early enthusiasm for enlistment in the military line organizations or reserves, but should await the announcement of the complete preparedness plans by the National Government and hold themselves in readiness to coöperate with the Government in such manner as their technical qualifications and unusual experience best fit them for national service. As W. H. Merrill, '89, expressed it, Tech men should be of greater service to the Nation "from the shoulders up" than "from the shoulders down," and therefore it is the duty of every Tech man to maintain his poise and equilibrium during these exciting times and determine, after cool deliberation, where and how he can render the greatest service. Several members also expressed the opinion that undergraduates now at the Institute should remain at their studies at least for the present and should not be encouraged to enlist forthwith in active military organizations. Any who may have suggestions to make concerning this whole question were asked to confer promptly with the chairman of the local Committee on Military and Industrial Preparedness. The following new officers were elected for the coming year: President, Frank F. Fowle, '99; Vice-president, William T. Blunt, '74; Secretary-treasurer, Harvey S. Pardee, '09; Directors: W. W. DeBerard, '01; Harry L. Grant, '01; Daniel A. Tomlinson, '12.

At the close of the business meeting the moving pictures taken of the Dedication Reunion held in Boston, last June, were exhibited, and after their exhibition a unanimous vote of thanks was extended to Mr. Frank Gilbreath for his unselfish services to the Institute and the alumni, in taking these pictures. By special arrangement, through the courtesy of the Military Training Camps Association, two reels of moving pictures taken at the Plattsburg Training Camp were next exhibited. After a few explanatory remarks from one of the representatives of the Training Camps Association, the meeting adjourned at the close of one of the most successful annual gatherings which has been held in Chicago for

some years.—*Harvey S. Pardee, '09, Secretary-Treasurer, 111 West Washington Street, Chicago.*

SOUTHEASTERN ASSOCIATION OF M. I. T.—On Saturday, February 10, the association held an annual dinner and meeting at Hotel Tutwiler, Birmingham, Ala. About fifteen members were present.

Election of officers: W. E. Mitchell, '03, was elected president, and the secretary was reelected.

Considerable interest was aroused in the preparedness program in particular reference to coöperation of the alumni associations. Those appointed to coöperate with the General Committee on the Mobilization of Tech's Resources are: Samuel A. Fletcher, '03; William E. Mitchell, '03; Arthur F. Mohan, '08; James W. Shook, '98; Allan H. Woodward, '00; and the secretary.

Among the visitors was George V. Muldaur of the National Electric Light Association, who made a very interesting talk on the subject of the Engineer's Officers Reserve Corps. Several of the local alumni have made application for position in this arm of National service and many others expressed a desire to enter. We expect to have a large number of men in this corps from the Birmingham district.—*F. C. Weiss, '13, Secretary, Alabama Power Co., Birmingham.*

TECHNOLOGY CLUB OF NORTHERN OHIO.—A. W. Spicer, formerly secretary of the Technology Club of Northern Ohio, has taken a position in New York and the writer has stepped into his place as secretary.

A report follows of the minutes, together with a list of those present at the last banquet.

We are making plans which we hope will mean a large attendance for this coming April and feel confident that those who are east will come to realize that Cleveland has "some bunch."

The following committee has been organized to aid in the work of the General Mobilization Committee: Henry B. Dates, '94; A. T. Hopkins, '97; G. E. Merryweather, '96; A. L. Patrick, '94; D. R. Stevens, '11; George W. Sherman, '94.

The club held a dinner on the evening of February 24 at the Cleveland Athletic Club where we had the pleasure of meeting and listening to L. D. Gardner, '98, of the New York club, Mr. Jones of Chicago and Mr. Ellms of Cincinnati. The speaker of the even-

ing was Colonel McQuigg who, eighteen years ago, founded the Ohio Engineering Battalion. The colonel gave a splendid talk on the needs of technical men for the army, the present difficulties experienced in getting supplies on short notice and very interestingly brought forth the duties of military engineers by citing concrete cases which had been dealt with while on duty at the Border.

A. T. Hopkins, '97, in behalf of the Technology Club of Northern Ohio, extended Colonel McQuigg an invitation to the April reunion and we were very much pleased to receive his acceptance.

The business of the meeting consisted in outlining the coming April gathering. We not only plan to aid the National Research Council and the National Council for Defence but expect to go a step further and prepare for meeting the keen business competition which will occur after the terrible conflict now raging in Europe comes to a close.

The forty Tech men who surrounded the long table all agreed that our program of business, pleasure, and sightseeing should mean a large attendance in April.

Those present at the dinner were: C. W. Brown, '99; George W. Bowers, '09; Clarence J. Berry, '13; F. E. Cody, '05; Edward Cook, '01; H. B. Dates, '94; R. H. Danforth, '98; Chester L. Dows, '12; A. M. Eicher, '12; J. W. Ellms (Cincinnati), '93; H. W. Ellis, '16; R. B. Fay, '05 (Elyria, O.); R. W. Ferris, '08; K. W. Gasche, '10; Q. D. Gardner (New York), '98; W. Hillman, '96; A. Hopkins, '97; A. D. Hartfield, '96; C. R. Johnson, '11; George B. Jones (Chicago), '05; Frederick C. Moore, '91; L. C. Marble, '96; C. P. Monto, '10; Frederick Metcalf, '90; J. R. McQuigg, '88; G. E. Merryweather, '96; O. S. Pulman, '06; R. W. Pratt, '98; A. L. Patrick, '94; C. B. Rowley, '12; L. A. Roby, '75; Kenneth W. Reed, '13; A. W. Spicer (New York), '13; Don Stevens, '11; George Sherman, '94; F. A. Smythe, '89; C. E. Stamp, '96; A. H. Tashjian, '07; N. E. Weeks, '93; F. R. Walker, '00; B. V. Zamore, '16.—*C. B. Rowley, '12, Secretary, H. W. Johns-Manville Co., Cleveland.*

WATERBURY, CONN.—The Massachusetts Institute of Technology was well represented on the evening of February 9, at the Elton, when about fifty graduates of that institution sat down to the first annual banquet of the alumni of this city.

The affair was a revival of the days spent in college in every particular and the same old friendliness and fraternalism displayed

by the graduates while studying in the Institute, was manifest throughout the evening.

Some of those who attended the banquet have been out of school only a few years, while others studied at the institution back as far as 1886, but this fact did not matter as long as everybody had received his sheepskin and was proud of his alma mater.

The banquet was held in one of the main dining rooms which was attractively decorated for the occasion. Darragh deLancey, '90, was toastmaster and he introduced E. O. Goss, '87, Charles Holmes, '88, and Professor Edwin F. Miller, head of the mechanical engineering department at the Institute as the principal speakers of the evening. Both Mr. Goss and Mr. Holmes delighted the gathering with stories of reminiscences of their early days at college and Professor Miller spoke interestingly on the new \$5,000,000 college building which is now under process of construction. Professor Miller said that when the new building is completed the advanced facilities for learning it will give will make Massachusetts Institute of Technology the largest as well as the best technical institution in the world. At the conclusion of his remarks he was enthusiastically applauded. A musical program was then carried out to which everybody contributed and the affair was not brought to a close until a late hour. Messrs. Roger M. Freeman, Gorton James, F. G. Purrington and Hugh Chatfield comprised the committee responsible for the success of the banquet.—*Republican*, Waterbury, Conn., February 10.

TECHNOLOGY CLUB OF SPRINGFIELD.—Sons of the Massachusetts Institute of Technology made merry at a dinner in the Hotel Worthy on the evening of January 19. Song and good fellowship reigned but in addition there was some good serious talk. Principal Charles F. Warner of the Technical High School delivered an interesting address in which he told of the work his school is doing in preparing men for such institutions as Technology. It was his pleasure also to announce the receipt of a letter from President Maclaurin informing him that the Springfield High School graduates, taken over a number of years, have stood at the head of other high school men in the state at the end of their first year at the Institute.

James P. Munroe, '82, of Boston told at length of the work Technology is doing to mobilize her resources for the aid of the

civilian naval consulting board, headed by such men as Thomas A. Edison. Soon after this board was organized with the object of bringing to bear upon naval problems the talents of the biggest specialists in American life, the Institute initiated a movement to summon its forces to the aid of the board in its work. An alumni council took charge of the work and immediately made good progress. Mr. Munroe told of this patriotic work in its many phases.

I. W. Litchfield, '85, field manager for the Alumni Association, was present and showed slides of the new buildings on the Charles as well as pictures of the big reunion last June. Frederic W. Fuller, '96, president of the Springfield club, presided. Some fifty graduates from Springfield and vicinity were present.

Mr. Warner said in part:

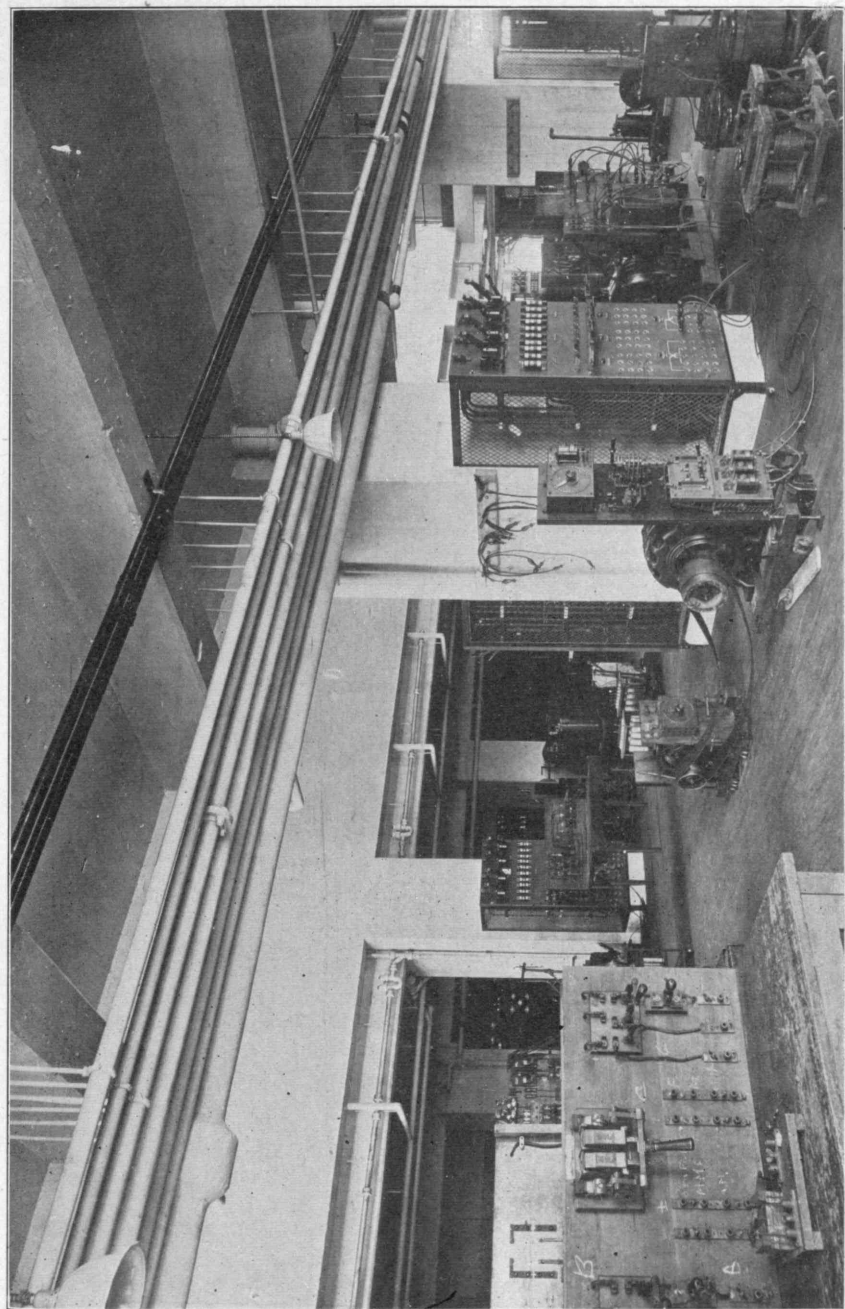
What kind of school training is on the whole best for boys preparing for the various schools of technology or for engineering courses in the colleges? The training of the engineer is preëminently an educational problem. We shall not lose sight of the ultimate practical aim of this phase of educational work; but as this work is now carried on in our best schools, and as it must be carried on for many years, it ought to be and primarily is a liberalizing process. Both the college and the scientific school aim to make broad gauged men, but the scientific school aims also to equip its graduates for industrial and professional efficiency. This is the practical side, and it must not be overlooked.

The preparation of students to pass successfully through such a thorough course of training evidently demands the development of power to follow one or more lines of intellectual effort with a thoroughness and completeness that is not necessarily called for in the more general college courses. There must be developed the power to do progressive work, and the strength needed for this work must rest upon a sound physical basis.

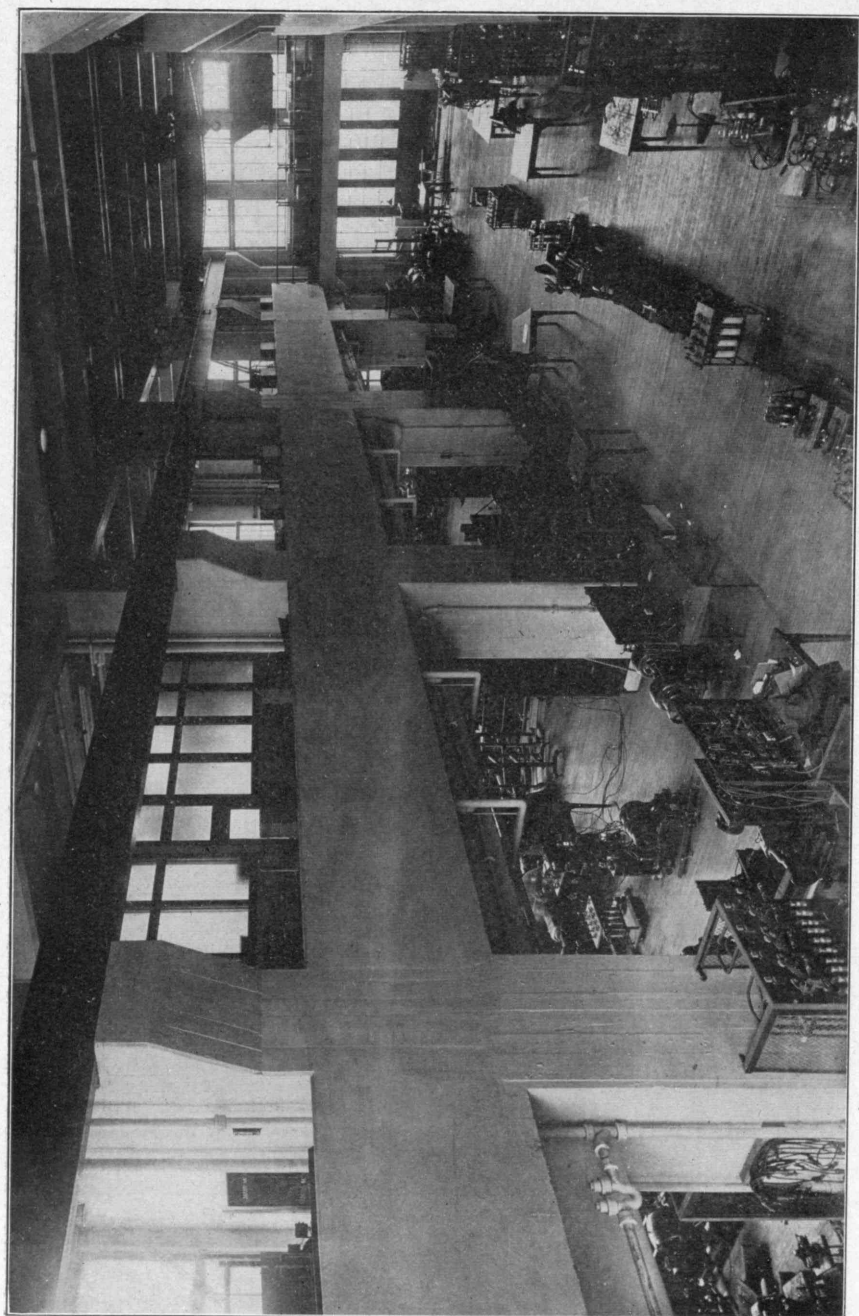
It is probably impossible to determine with scientific accuracy how much of the well-recognized improvement in the physique of the average American student during the past twenty years has been due to the development of physical training, but with it I believe there has been a corresponding improvement in mental and moral tone as indicated in the general reduction in the amount of vice, gambling and intemperance now practiced by American students.

Turning now to those subjects of study which are more generally recognized as necessarily included in the preparatory list, I should mention first of all English. Closely connected with this is the study of modern languages and of Latin. In the preparatory work in mathematics, after the elementary stages are passed, the aim should be to connect as closely as possible with the higher mathematical work. Two more preparatory studies remain to be mentioned, history and physical science. Another important element is mechanical drawing.

More than two thirds of the boys who have entered the Massachusetts Institute of Technology from this city are fitted in the Technical High School; and an examination of the records of all first-year students for a number of years has shown that the boys prepared in the Springfield schools have attained a higher average stand-



ELECTRICAL ENGINEERING LABORATORY



ELECTRICAL ENGINEERING LABORATORY, CRANE WELL

ing at the end of the first year than the students from any other high school in the state. I would like to read to you a letter from President Maclaurin:

"It is a pleasure to be able to state that the average record of all the students at the end of the first year is higher than the average record in recent years of first-year students in general. In this respect the public schools of Springfield occupy an excellent position. Their students have better records than the average of those from either the technical or non-technical public schools in the rest of the state."

You will note that President Maclaurin distinctly says that the Springfield school occupies "an excellent position"; and you have also noted the strong academic character of the course that I have just mapped out. It is essentially the course that we are following. Technical high schools should not be too much given to specializing along narrow lines. Their aim should be broadly educational and cultural, and at the same time practical. They should train for leadership in the productive industries.—*Springfield Republican*, January 20.

TECHNOLOGY ASSOCIATION OF MAINE.—The Technology Association of Maine was formed April 7, at the Congress Square Hotel, Portland, upon the occasion of the second annual banquet of Massachusetts Institute of Technology men in Maine. Twenty-seven were present and officers of the association were elected as follows:

President, Robert H. W. Lord, '05; vice-president, Frederick Abbott, '93; secretary-treasurer, Joseph A. Warren, '91.

Congratulations were exchanged by wire with the Technology Association of New Hampshire, meeting at the same time at Manchester, N. H., and a committee was appointed to arrange for informal noon luncheons of Technology men in Portland.

Dr. Warren K. Lewis, '05, of the chemical engineering department, spoke very interestingly upon the work being done to obtain a supply of nitrates in war and upon the progress being made in the mobilization of Technology's resources to the aid of the country. Another interesting feature of the evening was the showing of lantern slides of the grand reunion last June, of Technology men at Boston, and the new buildings and laboratories.—*Portland Express*.

TECHNOLOGY ASSOCIATION OF OREGON.—Mobilize Oregon's technical resources!

This is the patriotic appeal that has been made by the alumni of the Massachusetts Institute of Technology to the technical men of the state as a step in the preparedness campaign.

A meeting will be held in Library Hall, Saturday evening, April 14.

All the engineers, architects, chemists, electricians and other technical experts have been invited to attend. Obviously the service that this class of men can render during the war is of tremendous proportions. The question now is to direct their genius and their experience along the proper channels.

A call has been sent by the committee in charge of the meeting to members of the following organizations: American Society of Civil Engineers, American Society of Mechanical Engineers, American Institute of Electrical Engineers, American Institute of Mining Engineers, American Institute of Architects, American Chemical Society, National Electric Light Association, Oregon Society of Engineers, Technology Association of Oregon.

"But we are more particular to get in touch with unattached technical men," says A. G. Labbe, '07, chairman of the committee. "There are scores of very able men in Oregon who are not affiliated with any of the technical organizations. These are the men whom we want to hear from most particularly, for we are always able to get in touch with the organized men."

The following tentative program has been arranged by the committee in charge:

Address by George C. Mason, state chairman associate members, Naval Consulting Board.

Address by Edgar H. Sensenich, director, Oregon Patriotic Service League.

A communication will be presented from Major Henry C. Jewett, president examining board, Engineer Officers' Reserve Corps.

A definite plan of procedure will be worked out and the entire course of activities will be under the general direction of the Oregon Patriotic Service League, which recently has been organized to assist all other patriotic movements in the state to accomplish their desired ends.

The committee in charge of Saturday's meeting is as follows: R. G. Dieck, American Society of Civil Engineers; L. T. Merwin, American Institute of Electrical Engineers; Joseph Jacobberger, American Institute of Architects; F. A. Olmsted, American Chemical Society; J. C. Henckle, National Electric Light Association; H. L. Vorse, Oregon Society of Engineers; A. G. Labbe, chairman, Technology Association of Oregon.—*Oregonian*, Portland, April 13.

TECHNOLOGY CLUB OF BRIDGEPORT.—The local committee of the General Mobilization Committee met and discussed the sit-

uation. At our annual meeting on April 10, Mr. Simon Lake, inventor of the Even Keel Submarine, has consented to speak to us.

The local university club has formed a rifle club, which drills three times a week, and which is going over in a body to the home guard.

We are organized and are awaiting definite instructions.

The club held its annual meeting and dinner in the University Club on April 10, 1917. After dinner club business was attended to, and the following officers were elected for the ensuing year: E. G. Gallagher, '00, president; L. B. Walker, '12, treasurer; W. A. Swain, '15, secretary.

The representative committee of five to coöperate with the mobilization committee is as follows: Wilbur A. Swain, '15; J. F. Johnson, '09; R. H. Leach, '00; G. M. Macdonald, '03; H. T. Smith, '98.—*W. A. Swain, '15, Secretary, The Criterion Club, Bridgeport.*

TECHNOLOGY CLUB OF PUGET SOUND.—A paper was read before the Technology Club of Puget Sound, by Capt. A. O. Powell, who is secretary of board for State of Washington, for investigating the question of national preparedness.

At this meeting we had about sixteen members present, and the club went on record as volunteering to assist the Board of Directors to procure the information which they are endeavoring to obtain from the manufacturing plants regarding their equipment and facilities along the line of preparedness.

Our club meets monthly for luncheons and we have from fifteen to twenty men present at each meeting.

A mobilization committee of five men representing our association was formed as follows: B. L. Crosby, '74; Frank Dabney, '75; Francis Frink, '00; Karl Harbaugh, '95; W. J. Roberts, '91.—*W. Scott Matheson, '99, Secretary-Treasurer, Westerman Iron Works, Seattle.*

TECHNOLOGY CLUB OF CENTRAL PENNSYLVANIA.—A luncheon was held at the Engineers Club on April 5, at which time the Harrisburg committee for mobilizing Tech's resources organized. Those appointed are: Farley Gannett, '02; H. P. Drake, '04; C. A. Emerson, '05; Richard V. MacKay, '06; Frank A. Robbins,

Jr., '02. H. P. Drake will act as secretary, and Frank A. Robbins, Jr., as chairman.

The committee will hold itself in readiness for any suggestion which may be offered, or for any work that the association may deem fit to request us to do.—*H. P. Drake, '04, Harrisburg.*

TECHNOLOGY CLUB OF THE SOUTH.—The following names have been submitted for our mobilization committee. We have not had a meeting of our local organization recently, but all of us will gladly coöperate in any way we can: J. H. O'Neill, '10; Jules Godchaux, '93; Moise H. Goldstein, '04; Allison Owen, '95; John L. Porter, '00; William S. Resor, '93; Samuel W. Weis, '92.—*J. H. O'Neill, '10, Secretary, Department Sanitary Engineering, New Orleans.*

TECHNOLOGY CLUB OF THE UNIVERSITY OF ILLINOIS.—The circular letter to secretaries of local associations was received by Mr. Edwin Frank and read at the last monthly meeting of the M. I. T. alumni. We are all greatly interested in the work especially in the matter of coöperation on research. We have especially fine laboratories here and are trying to put these to the largest possible use for the state and country in general.

A committee has been formed to support the general committee as follows: Harold E. Babbitt, '11; Elisha N. Fales, '11; Elmer A. Holbrook, '04; Richard C. Tolman, '03; Edward W. Washburn, '05; Arthur C. Willard, '04.—*F. H. Newell, '85, University of Illinois.*

TECHNOLOGY CLUB OF ROCHESTER.—At a meeting of the Executive Committee, on Tuesday, March 6, the following committee was appointed to take up the preparedness work in connection with the mobilization of Technology's resources: John F. Ancona, '03; Walter G. Bent, '05; Allen S. Crocker, '97; James C. Dyer, '99; Virgil M. Palmer, '03.—*W. S. Lucey, '07, Secretary, Eastman Kodak Co., Rochester.*

TECHNOLOGY ASSOCIATION OF NORTHERN CALIFORNIA.—On March 6, the association held a regular dinner, the speaker of the evening being Miner Chipman of Boston, an efficiency engineer who is temporarily on the Coast. Among those present were: George E. Atkins, '04; J. R. Brownell, '01; H. F. Clark, '12; L. P. Ferris, '11; S. R. Holmes, '15; E. F. Kriegsmann, '05; W. E. Leland,

'91; E. B. Mead, '99; R. Norris, '96; F. S. Phelps, '06; G. E. Sibbett, '03; H. G. Simpson, '03; R. S. Clark, '06.

At this meeting the resignation of President A. E. Wells, '06, was taken up and it was decided that the secretary of the association should assume the duties of the president until the next regular election.

The mobilization committee has been organized with the following members: George E. Atkins, '04; John R. Brownell, '01; F. M. Eaton, '05; F. H. Harvey, '93; H. C. Marcus, '01.—*H. F. Clark, '12, Secretary-Treasurer, 999 Bush Street, San Francisco.*

ST. LOUIS SOCIETY OF THE M. I. T.—With reference to the work of the committee for mobilizing Technology's resources, we had a meeting of this society, January 4, at which the committee report was read and discussed. Those present approved of the work, and this society will be willing to do its part, whatever that may be. The following have agreed to serve upon the local committee: Leslie Dana, '94; R. G. Hall, '97; E. C. Klipstein, '94; John L. Mauran, '89; Richard Morey, '95; W. O. Pennell, '96; Charles E. Smith, '00. John L. Mauran, our president, is also a member of the general committee.—*Amasa Holcombe, '04, Secretary-Treasurer, 510 Pine Street, St. Louis.*

TECHNOLOGY CLUB OF FALL RIVER.—At a meeting of the club the following names were selected as representing diversified lines of industry and interests, on the local Technology mobilization committee: A. L. Shaw, '09; George H. Eddy, Jr., '75; Joseph Nute, '85; A. E. Slade, '75; E. G. Thatcher, '02, C. H. Warner, '89.—*Arthur E. Hirst, '13, Secretary, 55 Madison Street, Fall River.*

INDIANA ASSOCIATION OF M. I. T.—On February 3, this association held a meeting, and the following committee was appointed in compliance with the suggestion of the Technology mobilization committee: Wilson B. Parker, '88; Alex. R. Holliday, '99; William M. Taylor, '86; William Guy Wall, '96; J. Lloyd Wayne, 3d, '96. Severance Burrage, '92, was with us and enjoyed a lengthy discussion of the subject.

Our annual meeting and dinner will be held March 3.—*W. B. Parker, '88, Secretary, Board of Trade Building, Indianapolis.*

TECHNOLOGY CLUB OF THE MERRIMACK VALLEY.—The following names were sent in by the Merrimack Valley Club, who are ready

to undertake the work of the committee on government coöperation: E. B. Carney, '93; C. H. Eames, '97; R. A. Hale, '77; Adj.-Gen. G. W. Pearson, '89; Robert F. Pickels, '87, and the secretary. We will do what we can to further the cause.—*J. A. Collins, Jr., '97, Secretary, 67 Thorndyke Street, Lawrence.*

TECHNOLOGY CLUB OF PHILADELPHIA.—The following men have been appointed by the Philadelphia Club, as representatives of the club, to coöperate with the general committee on the mobilization of Technology's resources: C. J. Walton, '14; D. K. Bullens, '09; H. A. Terrell, '07; P. E. Tillson, '06; H. L. Walker, '05; F. E. Waters, '15. This committee has not done, as yet, any definite work owing, undoubtedly, to the fact that at our last meeting of the Philadelphia club the writer was elected president of the club for the ensuing year and has not yet had the time to get in touch with all features of the work.

The Philadelphia club stands ready and willing to do all that it can to further the work which the committee has initiated.

It will probably be impossible for many of our members to attend the meeting of the Technology Clubs Associated in Cleveland on April 21, but Dr. Hollis Godfrey has been appointed a representative of the Philadelphia club for this meeting.

The next meeting of the club will be on Wednesday evening, May 2d, and if it is desirable to do so we can very readily devote a part, if not all, of the time to a consideration of the work which the committee is doing.—*Herbert A. Terrell, '07, Wenonah, N. J.*

TECHNOLOGY CLUB OF NEW HAMPSHIRE.—The club members, in accordance with Technology's mobilization scheme, advised the following names to represent them on the subcommittee: John C. Chase, '74; Albert L. Clough, '91; Thomas W. Estabrook, '05; Robert N. Hoyt, '09; C. B. Pratt, '91; Montgomery Rollins, '89.—*Walter Davol, '06, Secretary-Treasurer, Amoskeag Bank Building, Manchester.*

TECHNOLOGY ASSOCIATION OF MINNESOTA.—The local alumni committee on the mobilization of Technology's resources met to talk over the suggestions offered by the general alumni committee. We trust that we are not less patriotic or enthusiastic than other alumni or American citizens, and stand ready and willing to do all that we can, individually and collectively, to further the

work of industrial, naval or military preparedness, especially in our own section of the country.

The following men will act as a subcommittee to coöperate with Technology's general committee: F. H. Bass, '01; G. H. Goodell, '92; Williston C. Rich, '06; Ross R. Schulte, '04; Jesse W. Shuman, '97.—*W. R. Salisbury, '12, Secretary, Salisbury & Satterlee Co., Minneapolis.*

TECHNOLOGY CLUB OF NEW BEDFORD.—The club gets into line with the following members appointed to serve as a subcommittee to coöperate with Technology's mobilization plans: D. W. Beaman, '96; F. E. Earle, '06; George H. Nye, '86; C. G. Whiton, '94.—*Richard D. Chase, '92, Secretary-Treasurer, 607 Purchase Street, New Bedford.*

TECHNOLOGY CLUB OF LOUISVILLE.—A meeting of the officers of the local association was held and the following names were suggested for a coöperative committee to act in connection with the Mobilization Committee of Technology's Resources: L. S. Streng, '98; Walter E. Caldwell, '08; James Clark, Jr., '90; Everett R. Cowen, '07; William H. McAlpin, '96; Frederick H. Stover, '10; Marshall H. Washburn, '03.—*L. S. Streng, '98, Secretary, Louisville Gas and Electric Co., Louisville.*

SOUTHWESTERN ASSOCIATION, M. I. T.—The following names were submitted by the club as a subcommittee for mobilizing Technology's resources: Clarence M. Hardenbergh, '03; Alfred W. Hertz, '06; Henry F. Hoit, '97; Albert E. Lombard, '02; Edwin M. Price, '08; and the secretary.—*Hermann Henrici, '06, Secretary-Treasurer, Reserve Bank Building, Kansas City.*

PITTSBURGH ASSOCIATION OF THE M. I. T.—At a meeting of the local Technology Association March 22, a local committee was appointed with Maurice Scharff, '09, as chairman; Harry A. Rapelye, '08; Bradley Dewey, '09; George L. Norris, '87; John W. Taylor, '05; Luther K. Yoder, '95. The committee was instructed to communicate with Boston and to report at the meeting which will be held April 12, full information regarding the objects which the Boston committee has in view, the methods proposed for attaining them and what the local committees can do to help out. All present expressed their desire to do everything in their power. Such a committee might be useful in assisting to complete the record

regarding Technology men, provided such record is going to be of practical value to the War Department; by helping to promote the universal training and service propaganda; in calling the Officers Reserve Corps, and similar opportunities of service in the existing organization of the country, to the attention of those qualified to take advantage of them.—*Maurice Scharff, '09, Pittsburgh.*

TECHNOLOGY ASSOCIATION OF MONTANA.—The members of the subcommittee appointed to serve with the general committee have organized as follows: Charles D. Demond, '93; George W. Craven, '98; William L. Creden, '90; Charles W. Goodale, '75; Frederick C. Jaccard, '07; Albert E. Wiggin, '07.—*C. D. Demond, '93, Secretary-Treasurer, 704 Main Street, Anaconda.*

Plans Gas-Engine Classes

The Institute of Technology will contribute to the needed preparedness in the present national crisis by giving instruction in the set-up and use of a gasoline motor three nights a week—Tuesday, Wednesday and Friday—beginning Friday night, March 23, from seven to ten o'clock.

Professor J. C. Riley of Technology, assisted by Charles L. Homer, New England representative of the Sterling Engine Company of Buffalo, N. Y., and Morris Brotherton, an expert gasoline engine man from the Sterling shops, will be in charge of the classes.

Two types of motors, a four-cylinder and an eight-cylinder—the types to be found in most patrol boats for coast service—will be in operation. The four-cylinder will be under power and the eight-cylinder will be taken down and assembled by the men in the various classes. Everything that these instructors can think of, that might happen to a gas engine, will come to pass, and the troubles of the classes will be many.

Men who are enrolled in the Naval Coast Defense Reserve, whether they are college men or not, are eligible to these classes which have been arranged by the Committee of Public Safety. All that the enrolled members have to do is to register for the classes either at 42 Water street at the offices of the Naval Training Association, or at the Gas Engine building at Technology, where the lectures will be given. This building is on Vassar street, just east of the Technology power house in Cambridge.

Harvard, Technology, Tufts and Williams college men have already registered for the classes, and many of the men enrolled as machinists' mates in the Coast Defense Reserve, have signified their intention of joining the classes.

New Term Members of Corporation

Elisha Lee, '92, of New York and Philadelphia; Edward W. Rollins, '71, of Boston, and Dr. Willis R. Whitney, '90, of Schenectady have been elected term members of the Corporation of the Institute. The members whose terms expire are, Louis A. Ferguson, '88, of Chicago; Arthur D. Little, '85, of Boston, and Eben S. Stevens, '68, of Quinebaug, Conn. Francis L. Higginson tendered his resignation from the corporation and Charles A. Stone, '88, asked to be relieved of the duties of the executive committee. Edwin S. Webster was appointed to this committee to fill out Mr. Stone's term.

By the will of Ellis Hollingsworth of Braintree the sum of \$10,000 will be given to the Institute of Technology and an equal sum to the General Hospital and the Museum of Fine Arts, upon the death of the testator's wife or her mother, Mrs. Susan J. Littlefield. William O. Dunbar of Cambridge and Walter E. Pratt of Wellesley are named as executors, the Boston Safe Deposit and Trust Company as trustee.

TECH MEN IN THE PUBLIC EYE

HENRY SOUTHER, '87, has been made adviser of the Aviation Section of the Signal Corps of the United States, under General George O. Squier, commanding officer of aviation. Mr. Souther has to do with all matters relating to aviation intelligence, trucks, motor cars, motor cycles and aviation accessories, also with the material entering into this equipment. Mr. Souther made a great reputation as engineer for the American Society of Automobile Engineers with which society he was connected for many years. He has had very wide experience in the testing of material, more especially that connected with the manufacture of motor cars and engines.

A. B. MCDANIEL, '01, former assistant professor of civil engineering, University of Illinois, has recently been given administration charge of the General Engineering Department of Union College, Schenectady, N. Y. After leaving the Institute, Professor McDaniel was engaged in engineering work with the Case School of Applied Science, in Cleveland, as instructor in civil engineering. He was professor of engineering at the University of South Dakota, 1907-1912, and assistant professor of civil engineering at the University of Illinois until this year. He is the author of "Excavating Machinery," 1913, and "Earthwork," 1915. Professor McDaniel is a member of the Sigma Chi and Sigma Tau, honorary societies.

W. F. M. GOSS, '79, formerly dean of the College of Engineering, University of Illinois, has resigned to accept the presidency of the Railway Car Manufacturers Association of New York. The aim of this association is to promote efficiency and to work for the standardization of parts and of specifications. Mr. Goss has held the position of dean as well as that of director of the School of Railway Engineering and Administration of the University of Illinois and he has also been professor of railway engineering. His great work has been along the lines of railway, motor car and rolling stock on which he is one of the highest authorities. He held important positions at the Chicago Exposition, 1893, St. Louis Exposition in 1894, as chief engineer of the Commission of Investi-

gation on Smoke Abatement and the Electrification of Railway Terminals in Chicago, 1913-1915.

DONALD B. ARMSTRONG, '13, has been selected by the National Tuberculosis Association to conduct "The Framingham Experiment," by which it is proposed to make Framingham, Mass., a demonstration of the possibilities that exist in wiping out tuberculosis. For this purpose a fund of \$100,000 has been contributed by the Metropolitan Life Insurance Company. Framingham was selected because it is a representative manufacturing center, in a state with a good health department and having, itself, an excellent health officer and good city government. Doctor Armstrong has been prominent in public health work in New York City, largely in connection with the Association for the Improvement of the Condition of the Poor.

J. E. OTTERSON, '09, has been appointed by the Council of National Defense a member of the board of experts whose duty it is to standardize American munitions. He is a graduate of the Naval Academy, and also of the Department of Naval Architecture of the Institute of Technology where he took the degree of master of science. He served in the United States Navy for a time and is now first vice-president and general manager of the Winchester Repeating Arms Company at New Haven, Connecticut.

BUTLER AMES, '96, is named by Governor McCall to be commander of the Home Guard which the state legislature has created for domestic police work during the war. Mr. Butler is a grandson of General Benjamin F. Butler, formerly governor of Massachusetts. He was graduated from West Point in 1894 and, after serving for a time in the army, resigned to take a course at the Institute of Technology from which he was graduated with the class of 1896. He is manager of several large interests in Lowell, Mass. During the Spanish American War he served with distinction in Porto Rico. From 1903 to 1910 he represented the Fifth Massachusetts District in Congress.

ARTHUR D. DEAN, '95, has become a member of the faculty of Teachers College, Columbia University, where he will have charge of supervisory work in training administrators in vocational education. Mr. Dean was engaged in industrial education in Portland, Maine, and Springfield, Mass., and afterwards became

supervisor of evening schools for the Young Men's Christian Association of Massachusetts and Rhode Island. More recently Mr. Dean was chief of the Trade School division of the Department of Education in New York State, to which position he was appointed by Commissioner of Education Draper.

ELISHA LEE, '92, has recently been appointed general manager of the Pennsylvania Railroad. After leaving the Institute Mr. Lee entered the service of the Pennsylvania Railroad in November, 1892, as rodman in the office of the division engineer of the Tyronne Division. He was appointed assistant supervisor in April, 1899. In August, 1903, Mr. Lee was promoted to assistant engineer in the Maintenance of Way Department. In 1909 Mr. Lee was appointed superintendent of the New York, Philadelphia and Norfolk Railroad, and on March 3, 1911, he was made assistant to the general manager of the Pennsylvania lines east of Pittsburgh and Erie. He was appointed general superintendent of the Philadelphia, Baltimore and Washington Railroad on April 1, 1914. He served in the capacity of chairman of the Conference Committee of Managers of the Eastern Railroads of the United States from 1912 to 1914. In that position he had personal charge, on behalf of the various railroads interested, of the negotiations with the labor organizations. Mr. Lee was promoted to the newly created office of assistant general manager in May, 1916.

ARTHUR W. DEAN, '92, chief engineer Massachusetts Highway Commission, was recently elected president of the American Road Builders Association, at its annual meeting.

FRANK B. JEWETT, '03, formerly assistant chief engineer of the Western Electric Company, has recently been made chief engineer of that company, succeeding Mr. C. E. Scribner retired. Mr. Jewett received the degree of A. B. in electrical engineering from Throop Polytechnic Institute, Pasadena, California, in 1898 and in 1902 received the degree of Ph. D. from the University of Chicago, later coming to the Institute as a student of electrical engineering. He then joined the engineering staff of the American Telegraph and Telephone Company where for a number of years he directed the transmission work of that company. In 1912 he became assistant chief engineer of the Western Electric Company.

EDWARD C. SHERMAN, '98, has taken up his duties as designing engineer for the Bureau of Yards and Docks, Navy Department, Washington, D. C. Mr. Sherman became connected with the Cambridge Bridge Commission in 1899 where he remained until 1902 when he was promoted to assistant engineer. He later became division engineer for the Charles River Basin Commission and from 1909 to 1911 was designing engineer for the Isthmian Canal Commission. Since that time he has been in Boston, in private practice.

FREDERICK S. HARTMAN, '15, whose pluck made him the hero of the Winnipeg-St. Paul Dog Races the last of January, specialized in chemistry at Tech but did not graduate. In the stories of the remarkable race Hartman was referred to as the American entry and a former Bostonian, but at Tech he was registered from Saskatchewan, Can. He has been employed as an assayer in the far Northwest. Dispatches from St. Paul state that so many purses were bestowed upon Hartman for his pluck in finishing, in spite of the greatest handicaps, he is in a fair way to realize his ambition to establish a chemical research laboratory. Numerous theatrical offers to appear with his dogs give him an opportunity to add greatly to the gratuities from admirers.

JAMES P. BARNES, '05, formerly general manager of the Buffalo, Lockport and Rochester Railway, has been appointed general manager of the Schenectady Railway Company.

MISCELLANEOUS CLIPPINGS

In order to be able to place before the students of Massachusetts Institute of Technology a clear view of the service they might render the nation in case of war, the Institute Committee, composed of one representative of each of the student activities, has placed before the undergraduates a report admirable in scope, clarity and brevity. The committee conferred not only with members of the faculty, but with army officers and prominent business men. As a result it recommends that if hostilities come undergraduates withhold their service completely and await developments, in order that they may be placed where they can do the most good. The report points out that because of the limited experience and technical training of undergraduates, the services which they can perform are not apt at the start to carry heavy responsibilities, but that, nevertheless, their qualifications are such that positions may develop where they could be of much more value than if they enlisted before the whole situation could be properly studied. In addition to this sage counsel the report gives an analysis of the services which undergraduates might render in the army, in the navy and in the industries upon which the fighting arms depend. The step taken by the Institute Committee is an excellent one and deserves to be followed immediately by student or faculty bodies in all of our engineering colleges.—*Engineering Record*.

The "Stein Song," that famous one of good fellowship, and so well sung by the Brown University grads at their recent banquet here in Boston, brings to my mind the difficulties Frederick Field Bullard, its author, had in selling it. The composer, then a young Tech man, visited three or four Boston music houses, went through the usual procedure of politely offering his song, but was just as politely turned away. Discouraged, but never willing to give in, he turned toward the last hope, a small concern, now famous, which had at its head a man of unusual business acumen; also fortunately for Bullard, one who was human. Bullard walked in with a determined look on his face and begged the publisher to let him play his song. "The young man seemed so earnest," says the publisher, "that I allowed him to sit down and play it, though reluctantly, as it is strictly against my own rules." Composers do not have a natural way of bringing out the best in their works.

"And how he did play! Nothing I have heard since has made more of an impression on me than that old 'Stein Song.'" Indeed, it made such

an impression on him that before Bullard got up from the piano the publisher had thrust a most liberal contract into his hands.—*Boston Advertiser*, Jan. 29.

A career like that of Elihu Thomson needs to be kept before the American public. Intensive light was indeed shed upon it last week, when **Great American Scientists** Elihu Thomson was awarded the John Fritz medal for distinguished scientific achievement, while half the Massachusetts Institute of Technology looked approvingly on. But the American public, quick though it is to applaud and utilize scientific attainments, is seldom well enough informed concerning the unseen and hard-labored backgrounds of such attainments to know how to appraise rightly the men who accomplish them. It needs several entries on the pages of its memoranda to keep such celebrations alive. There are educators of prominence who believe that America is unduly pessimistic regarding the scientific advance of its own people, who agree with thoughtful foreigners in remarking that the trouble with America is not so much that it does not produce great men in science, but that it does not recognize them when they are here. The celebration of Elihu Thomson's fame should help to upset this charge. In him America has the man whose early invention of an electric arc dynamo was described by a German as "an American machine that violates every known law of the electrical art." His development of this American machine merely proved that it was pioneer work far in advance of anything Germany knew, and a dynamo the most effective and successful on the market.

As President MacLaurin further demonstrated in his speech on Elihu Thomson, his most remarkable characteristic has been his power not only to invent, but also to correlate a series of inventions into an organized machine of a type both effective and economical. In this Dr. Thompson exhibits an unusual combination of capabilities. It indicates in the first place his naturally endowed possession of the really first-rate qualities of mind, the genius which means vision, keen insight, an ability to grasp fundamentals. The men who have this endowment are commonly known as "brilliant." And they are brilliant, but all too often they lack qualities which, although of less importance in one manner of viewing them, are none the less essential to any practical development of the ideas which genius conceives. Dr. Thompson had also this practical power, painstakingly and studiously developed through all the years of his study and teaching in America, which began soon after his parents brought him as a child from England. They have given his natural genius the power to express itself in achievements, such as that of his process of electrical welding, which have led to the establishment of over five hundred patents.

nearly all of them of great use to the commercial manufacturing companies which have employed both the inventions and their inventor.

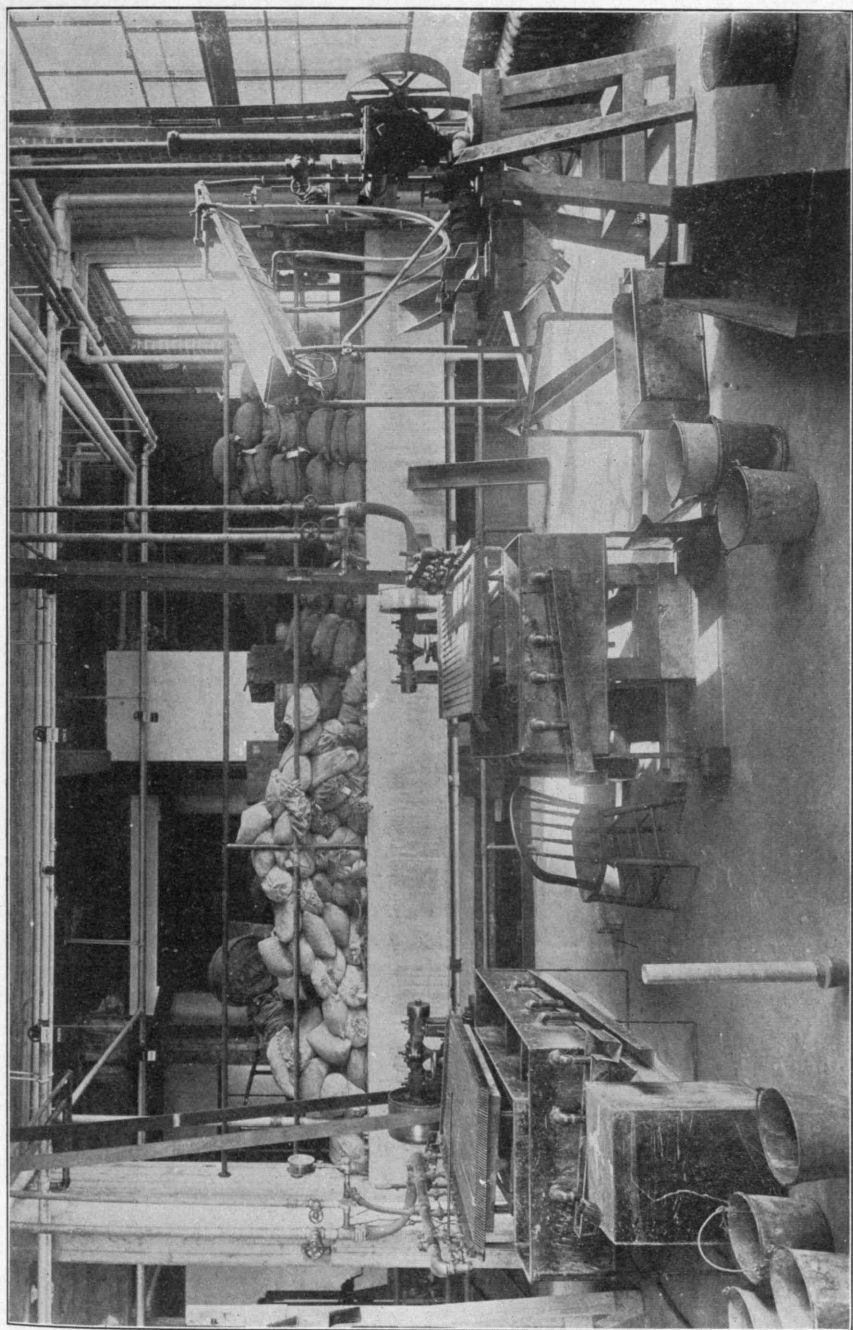
In Elihu Thomson America has a man who has achieved great things in the field both of science and of its industrial application. He is the recipient of a medal which perpetuates the name of John Fritz, a man of like achievements. Let such names be kept before the public both as proof of this country's power to develop great men, and of brilliant men's power to be also practical if they work hard enough.—*Boston Transcript*, Dec. 12.

Ah, the architects of America! Certainly they are of their own country. Yet, great gods, how much they are also of ours! Many among them have never set foot on French soil and know us only by such of our masters as have been called to professorships in their universities. The truth is that the French professor of architecture ranks first in the United States and that he literally carries France there with him, bringing all which France has of the best, the straightest and clearest, the most attractive, and, in a profound sense of the word, the most sympathetic. Let the dead bear witness:

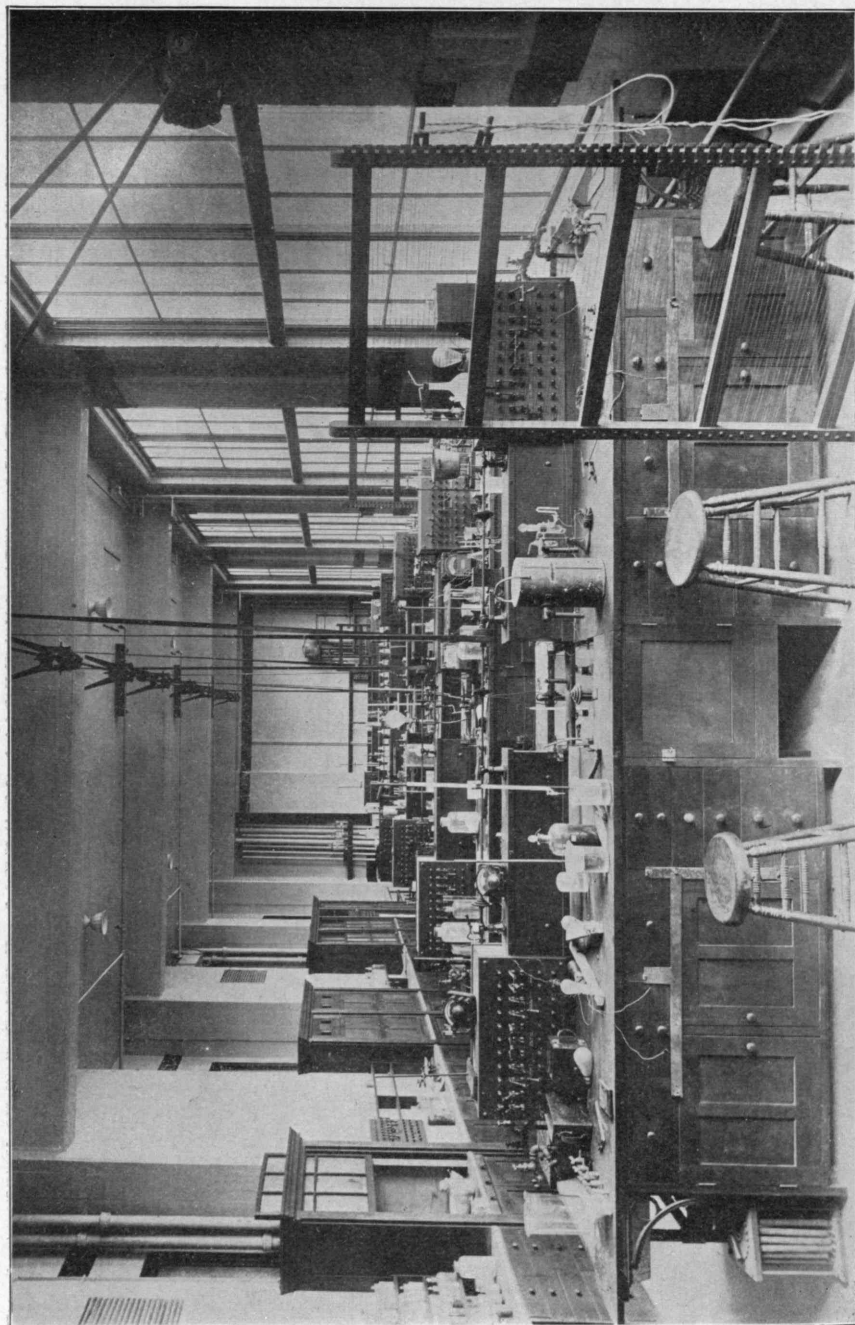
The luminous trail left in Boston by the memory of a Despradelle, of whom one of his former students has written me: "We owe him something larger and better than the apprenticeship of our art. He was like a great spiritual lyre whose vibrations spread throughout our moral being, it seemed to us, communicating a thrill from on high which electrified the soul, and for which there is but one expression—the thrill of France."—*La Revue de Deux Mondes*.

There seems to be some hope for Carranza. He has named for the position of ambassador to the United States Ignacio Bonillas, who is a graduate of the Massachusetts Institute of Technology, an eminent mining engineer, and knows the United States as well as his own country. It is particularly fortunate that at so critical a time as the present, the neighbor who has caused us so much trouble lately should be so good as to send a man to represent her at Washington, who can be of such incalculable service to this country as well as his own.

Senator Vardman is going to attack President Wilson if he allows the country to go to war. Vardman should be weaned by this time of tilting with windmills. If the country goes to war it will be simply because the people understand, painful though the knowledge may be, that there is no other way to maintain our honor.—*Providence News*, March 24.



CORNER OF ORE-DRESSING LABORATORY



ELECTROCHEMICAL LABORATORY

Sound, sensible advice is that given the young men of the Massachusetts Institute of Technology when they are urged not to rush into the army or navy in the event of a call for volunteers.

Sensible Advice In England and France, at the outbreak of the war, many thousands of men who could have been extremely valuable behind the firing line went directly to the front, with the result that those of them who were not killed or wounded at once had to be recalled for technical work in the economic mechanism behind the firing line. The process was costly.

The outstanding characteristic of modern warfare is its universality. A nation that goes to war has to go as a nation. Delegated patriotism is a thing of the past. A people can no longer send an army and navy to look after the enemy, and settle back to read the newspaper accounts of what that army and navy do. The entire people has to become a fighting machine. The field and shop and laboratory are intimately connected with the trench and the battleship. Under such a system, it is the duty of every man and woman to learn just what he or she can do best, and do that thing.

The highly trained young men of the Technology Institute could be of much more use in the industrial organization of war than in actual fighting. And this is true of countless others. If we have to call out the manhood of the country, we ought at least to profit by some of the more glaring mistakes made abroad in 1914. One of these was depleting the technical and industrial force in order to fill the volunteer ranks.

In all this the question of patriotism does not enter. That is taken for granted. The best method of patriotic service is the thing to be determined.—*Union*, Manchester, N. H.

The Massachusetts Institute of Technology has entered into still another coöperative agreement with an important industrial concern. In this case again Technology throws its laboratories open to the company for the conduct of such scientific investigations as it may have under way or which it may propose in the future. This makes available to the company in the first instance a laboratory specialized to the needs of its particular branch of industry in a way which the company itself could only duplicate at large expense. Yet Tech offers still more. At the Institute there is available a whole system of related laboratories such as no one industrial concern would ever possess. If some phase of the work to be done calls any one of the related laboratories into requisition, its facilities and service are available. This arrangement has of course important advantages to the Institute itself, since it links Technology still more closely to practical

industrial and commercial work, and at the same time adds to the distinction of the Institute as a servant of all the public.—*Boston Transcript*.

That was sound advice given the students of the Massachusetts Institute of Technology by their undergraduate preparedness committee.

Good Advice to Students The natural impulse of youth, particularly to corporate youth, is to rush to the front when danger threatens the country. No longer ago than the Spanish-American War, many student bodies wanted to enlist at the first call for volunteers. The impulse is fine and the country is proud, but good judgment demands that it be held in check.

This is especially true of the men at "Boston Tech." Fighting nowadays is more largely than ever a matter of engineering, and the time may come when these specially trained young men will be needed for other purposes than carrying rifles. Modern warfare is based on efficiency, and a considerable part of that efficiency depends on the sort of knowledge these youths are acquiring.—*Times*, Richmond, Va.

The will to help the nation in its time of need has been evident everywhere among our colleges and universities, but the Massachusetts Institute of Technology is ready both with the will and the way. The moment President Wilson terminated relations with Germany, Dr. Maclaurin, the head of the Institute, offered to the government the services of the entire instructing staff and of all the laboratories. This meant not an offer to mobilize, to commence to begin the preparedness of Technology. The instructing staff of the Institute is always mobilized. To an extent not equalled anywhere else in the world, its laboratories are equipped and coördinated, and every problem of war as it is conducted today comes at some point into the laboratory. Any one of Technology's workshops of science is ready to carry on in coöperation with all the others whatever part of the labor falls in its province. This coördination is not merely a matter of related buildings. It is a structure of brains, directed and controlled by a well-organized faculty. When President Maclaurin offers them to the government, he offers that highest efficiency of service which can only be given by an unbroken corps of trained men, working in laboratories with the equipment of which they are thoroughly familiar.

Yet Technology is something more than its faculty, or rather it has been made more by that faculty. There is the great body of alumni, its individuals highly trained in the several branches which the foresight of Technology realized would require development. Long ago it had established its course in naval architecture. Every man available to help build a greater United States navy has had his final schooling at the Institute. Twenty-five years ago the school began to prepare for the need of the

trained engineer in health and sanitation, and Professor Sedgwick's graduates are today leaders in the work of conserving from disease more lives than are likely to be lost in battle. There is Technology's laboratory of aerodynamics and the courses established in connection with it. Civil engineers, mechanical engineers, sanitary engineers, together with the experts in chemistry, electricity and physics, supported by mathematics, without whose contribution modern warfare cannot be conducted, are all in the ranks of Technology.

And even this great army is in a sense mobilized. Technology began long ago to make a "census of the brains of the alumni." It has asked of every man who has once been a student in the Institute to state what are his capabilities and his condition, and what he can best do for his country in time of need. All this information has been of necessity kept in confidence, but its value will therefore prove all the more forceful. Among the undergraduates, and by their own initiative, a similar census has been nearly completed among the men now students at Technology. The takers of this census have carefully considered not only what the student can do, but also what things are really available for him to do. Behind this special preparedness there is the military training which for more than fifty years has been required of every freshman under the instruction of a regular army officer. The summer engineering camps, conducted for a score of years, have given students practice in engineering on a commercial scale which should stand them in almost as good stead for military purposes. The instructors and upperclassmen have had, indeed, a special engineer corps, recognized by the government and with an army officer for its teacher. This whole great system of training and coordination means that the Massachusetts Institute of Technology is mobilized and ready, both for the industrial struggle which will follow peace, and for any call to national service in a graver emergency.—*Boston Transcript*, Feb. 21.

There is food for reflection for all Americans in the remarks of Professor A. A. Noyes of the Massachusetts Institute of Technology, at a science-congress meeting, analyzing the importance of nitric acid to national defense in an emergency. Dr. Noyes finds that in the first year of the war Germany actually used a million tons of saltpeter to make nitric acid, and found the supply insufficient for the explosives she wished to make. Chile furnishes us with our saltpeter. From the by-products of coke we get 300,000 tons of nitric acid a year. But in a war emergency we shall have to depend on Chile, unless we can get nitrogen cheaply from the air. That is what Congress saw when it provided for nitric acid experimentation at government expense.

It is the opinion of Dr. Noyes that cheap nitric acid would increase our

farm products by \$3,000,000,000 a year. He notes that in Germany, before the war, production had been made cheap enough to justify its use for fertilizing. This element lends an interest to experimentation not dependent on war as a possibility. But efficient high explosives without the nitric acid are not in sight, and the defense movement in which most of us are interested cannot afford to neglect the pressing problem.—*Brooklyn Eagle*.

A new era in art will have its inception, following the great war, an era different in every detail from what has gone before, according to Ralph **Professor Cram Predicts** Adams Cram, distinguished architect and head of the department of architecture in Massachusetts Institute of Technology, who addressed approximately 800 persons in the candle-lighted hall of architecture, Carnegie Institute, last night. Mr. Cram was introduced by Colonel Samuel Harden Church, president of the Institute board of trustees.

Mr. Cram held that art has been degenerating for more than four centuries, and architecture, music and poetry succumbed in the last century. He said that had it not been for the war the world would have been confronted with a life from which art was excluded. He urged a return to the artistic spirit of the middle ages, which he declared to be the greatest epoch in Christian civilization. Radical schools of modern art Mr. Cram declared to be "mouthings of anarchy, the pathological products of a spiritual degeneration now in its last stages of dissolution."

He sketched the history of architecture and the other arts from the tenth century to the present. The period from 1000 to 1300 A. D. he called the most wholesomely organized, sanely balanced and spiritually stimulating in the history of Christian Europe. Modern artistic degeneracy, he said, was caused by the anarchy of the Reformation, by centuries of war in Europe and by the rise of industrial civilization.—*Pittsburgh Sun*, January 20.

Facing the international trade conflict coming after the war, a closer alliance between American industries and scientific schools becomes imperative, stated President R. C. Maclaurin of the **Industry and Technical Schools** Massachusetts Institute of Technology at a banquet of the Eastern Connecticut Chamber of Commerce on January 22. However much this country may keep out of entangling alliances, it cannot escape from the net of international trade. Present prosperity encourages, rather than checks our national habit of extravagance and wastefulness, and this will be enormously against us in the strenuous times ahead. We shall have to compete with peoples who have gone through the stern but effective discipline of hardship which has already produced in Europe more changes in two years than might other-

wise have come about in a century. "Think of the industrial changes that are demonstrated by the fact that France produces more today than it did before the war, although nearly a third of its richest territory is in the hands of the enemy," said the speaker, "and nearly all its vigorous men are at war." England's production is 15 or 20 per cent. larger today than before the war.

"Broadly speaking," said Dr. Maclaurin, "our only hope of success is to devise means whereby what is known as the scientific method and the scientific spirit pervades all the industrial operations of the country. All the old methods of intuition and 'rule of thumb' must be scrapped." Everything must be done in the spirit of scientific advancement. Far-sighted patriotic business men must bestir themselves and see that the fountains of science in this country are well tended and flow freely. The bonds between industry and the schools must be more firmly welded and every effort made to see to it that scientific schools make the most of their opportunities, so that there may be an adequate supply of young men trained to apply the methods of science to the industrial development of the land. Referring to the new \$7,000,000 plant of the Institute of Technology at Cambridge, President Maclaurin said that by a proper combination and organization of all its laboratories with due regard to the all-important question of manning them properly, there is scarcely a practical problem which such an institution would not be in a position to cope with, without detriment to its fundamental usefulness in the instruction of students.

The demand for men to work in the research laboratories of modern industrial concerns will soon outgrow the supply. These laboratories are costly affairs and many of the smaller concerns will soon find themselves in a difficult position. They will not be able to afford research laboratories and will go under in competition with others unless through research they can improve their processes and overcome their difficulties. The salvation of these smaller concerns will often come from such institutions as the Massachusetts Institute of Technology; the difficulties here are almost wholly financial, and could easily be overcome by a little wise planning and adequate support from the industries concerned. In the industrial warfare of the future science will surely be in the saddle and no nation, however well placed, can survive the struggle without scientific weapons. —*Electrical World*.

When a young American student of architecture sends his designs from this side of the water, to compete with French artists on their own ground, and carries off the first honors, it is good augury of the development in America of some first-rate artistic ability. Such has been the accomplishment of William B. Colleary, a senior in the Institute of Technology, whose design for a ceiling

**A Credit to
Alma Mater**

of monumental construction, to be erected in the Ecole des Beaux-Arts as a memorial to the artists who have died in this war, has been premiated and awarded a gold medal by the French government. There is nothing to show that this competitor has had any training abroad. He has been educated in various institutions in Massachusetts, having been known at Holy Cross both as student and athlete, and upon all of them his present attainment reflects credit. We should hear more of William Colleary.—*Transcript*, Boston.

Only the other day George E. Hale wrote in the *TECHNOLOGY REVIEW* that "if we solve some of the fundamental problems of preparedness we are less likely to be molested and less exposed to crippling losses in case war should come." The argument which **The Pull All Together** he made for the coöperation of mathematicians, chemists, geologists, biologists and engineers seemed commonplace then, but it gets new force and insistency in these stirring times. Its wisdom has been affirmed by the movement in England, where a corps of eminent investigators in all fields is at work under the leadership of such men as Lord Raleigh, Sir Joseph Thomson and Prof. Arthur Schuster. It has been more than justified by the results attained in France by the large group of scientists whose efforts are being directed from the office of M. Painleve the eminent mathematician.

The full showing of our own national research council, formed last year, has yet to be made, but the yield is already ample enough to encourage to further labors a membership which includes leading American investigators and engineers, representatives of the army, of the government's scientific bureaus, research endowments and the research divisions of our industrial and manufacturing establishments. The council is committed to "the employment of scientific methods in strengthening the national defense and such other applications of science as will promote the national security and welfare." But it was also called into existence "with the object of encouraging the investigation of natural phenomena and the increased use of scientific research in the development of American industries."

Here is the guarantee that the energies of the council are not being given solely to inventions and discoveries for use in war. We shall need efficient industries for the fierce competitions of the after-war period, and "pure science" is as likely to turn out useful for both peace and war as for the advancement of knowledge. Pasteur's contributions to medicine were made possible by studies undertaken without thought of practical gain. Researches in physics, carried out with no purpose of application in the arts, made it possible to telephone without wires from Washington to the Hawaiian Islands. And it is of considerable local interest to remember

that the breadth with which the National Research Council is interpreting its work was implicit and explicit in the plans of Rogers for the Massachusetts Institute of Technology, for he wrote into its program the truth that "the abstract studies and researches of the philosopher are often the most beneficent source of practical discovery and improvement."—*Boston Herald*, Feb. 7.

While offering every facility of the laboratories of the Massachusetts Institute of Technology to the United States government for any research in which it with its staff of trained professors can be of service, the Institute holds that in addition to the education of its students it has an important function in being helpful to the industrial world. An agreement with Technology by the United States Smelting, Refining and Mining Company, to be in force in April, whereby the latter is to avail itself of the laboratory facilities offered by the Institute, is the latest step in forming closer relationships with the industrial world. This Boston-controlled corporation is one of the two large companies of the kind in this country. With the ability of Technology to undertake the work, it has expressed itself, through its president, William G. Sharp, as desirous of availing itself of the advantages offered by the Institute. Instead of establishing a private research laboratory of its own it will bring its problems to Technology.

The advantages which accrue to a corporation which makes such an agreement include the economy afforded by not being obliged to establish a laboratory paralleling that of the Institute. Such laboratories are very costly, construction and equipment running into the scores of thousands. The Institute presents a further advantage that no private laboratory can afford, in that it maintains a great group of allied laboratories. There are unlimited quantities of water, steam, electricity and anything else that is needed, a great library, a large active force for investigation in the student body and unequalled facilities for quick and satisfactory conferences with the instructing staff. Then there is the ease with which other laboratories may be called to help in the solution of any problem. So related are the different industries that hardly any problem lies entirely within the sphere of only one of them. Chemistry turns to electricity, metallurgy to both of these, while mechanical engineering is fundamental.

On the other hand there are advantages to the Institute. It has a very costly equipment which it really holds in trust for the community. It is the duty of its officers to make the fullest returns possible. Every use of its facilities by the industrial world is a step towards the realization of its ideals. Coöperation like that with the United States Smelting Company, in the solution of industrial problems, makes it the more valuable to the people and the more valuable it becomes the better the chance

of greater importance in the future, with the better outlook for the carrying forward of research work that may be of general benefit. That the latter may truly be assured the Institute has in its agreement the provision that publication of results be not unduly delayed.

To carry on the special work which this coöperation necessitates, the Corporation of Technology has named Henry M. Schleicher, B. S., a graduate of 1910, to be research associate in charge of the work, the general direction resting on Professor H. O. Hoffman, professor of metallurgy. Mr. Schleicher since his graduation has been engaged in research work with two Boston firms, with especial attention to electrolytic separation and flotation.—*Science*.

BOOK REVIEWS

A METHOD FOR THE IDENTIFICATION OF PURE ORGANIC COMPOUNDS. Vol. II. Containing about 4,000 of the More Important Compounds of Carbon with Nitrogen, Hydrogen and Oxygen. By S. P. Mulliken, Ph.D., Associate Professor of Organic Chemical Research at the Massachusetts Institute of Technology. John Wiley & Sons. New York, 1916.

It is obviously impossible to discuss within the limits of a brief review the mass of material and wealth of detail contained in closely tabulated and abbreviated form which is here associated with the identification of 4,000 compounds.

The general plan of the work resembles closely that instituted in the volumes which have preceded it. Certain changes have been made necessary, however, partly through the experience gained in the use of the other volumes, and partly on account of the changes in the behavior of the compounds brought about through the presence of the nitrogen.

For these reasons, the main division has been made on the basis of the acid, basic or neutral character of the compound as determined by titration under definitely prescribed conditions. From these main divisions, having also further grouping into solid and liquid materials, the choice is further narrowed through melting and boiling point determinations and by forty-three numbered tests, which are described with the attention to minute detail that has characterized the previous volumes of the series.

In addition to tests which are more or less generally known, but are here adequately defined and described, there are others which have been so expanded or developed as to serve for the differentiation of large groups of substances. Such are the tests for the amino group, tests for ammonia and ammonium salts, the diphenylamine reaction for nitrosamines and nitro compounds, the preparation of characteristic picrates, and the hydrolysis or saponification of nitriles, amides, etc.

The present volume has special practical importance to the arts, since it furnishes detailed directions for the identification of such essential substances as the alkaloids, many important drugs as well as vegetable and animal constituents, the high explosives and intermediates of the dyestuff industry.

The many italicized procedures indicate the amount of time and care actually expended by the author, not only in compiling the tests and descriptions from the literature, but in actually studying experimentally and defining the analytical procedures. A good case in point is morphine, where nearly a page of the highly condensed table is devoted to work of this kind, representing undoubtedly a number of days of concentrated effort.

—A. G. W.

PRINCIPLES OF ALTERNATING CURRENT MACHINERY. By Ralph R. Lawrence. New York: McGraw-Hill Book Company, Inc. Cloth, 614 pages ($5\frac{1}{2}$ x 8 inches), 273 diagrams and illustrations. Supplied by the Electrical Review Publishing Company, Inc., for \$4.50.

If the number of books on alternating currents coming from the press is any index to the popularity of the subject, one may properly conclude that the theory of

alternating currents and alternating-current machinery is as popular as the most clever story of a summer romance, and that "Alternating Currents" is one of the "six best sellers." Although such a conclusion is erroneous, nevertheless, within its own field the book by Professor Lawrence will undoubtedly prove very popular. This book is the second volume of a series of electrical engineering texts prepared under the supervision of a committee of prominent engineers and teachers of electrical engineering. The first volume of the series on direct-current machinery by Dean Langsdorf was published somewhat over a year ago.

This second volume is a treatise on the fundamental principles of construction and operation of alternating-current machinery. Although most of the matter in the book is of interest to designers, the details of design have been omitted.

The subject matter has been classified under eight main headings, each one of which is subdivided into chapters. This classification lends itself to a logical and systematic treatment. The main discussions are Synchronous Generators, ten chapters; Static Transformers, twelve chapters; Synchronous Motors, six chapters; Synchronous Converters, eight chapters; Polyphase Induction Motors, nine chapters; Single-Phase Induction Motors, six chapters; Series and Repulsion Motors, five chapters.

Throughout the text, the chapter headings are followed by a table of contents which, to the reviewer, seems to be redundant, and resulting in unsymmetrical chapter headings. The outline of Chapter V covers more than half the printed page.

Another peculiar feature of the texts are the illustrations, every one of which is a pen drawing. It would be interesting to know what motives induced the author to have drawings made from photographs which show the details of construction as well as the drawings.

The treatment of the most important types of alternating-current machines is very thorough. In fact, the consideration given to minor matters of construction and operation is a valuable feature of the book. The author has not hesitated to use mathematics whenever its use was of assistance in the analysis of principles.

To point out all of the good sections of the text would necessitate a recapitulation of the table of contents. The sections on the parallel operation of generators, and on the static transformer are exceptionally complete. For a first edition the book is remarkably free of errors. In closing the review of the first volume of this series the writer said: "It has set a high mark for other books of the series." Professor Lawrence is to be congratulated for preparing a book on alternating-current machines that measures up to the mark.—From the *Electrical Review*, March 17, 1917.

TEN YEAR RECORD BOOK OF THE CLASS OF 1896. 68 pages. Bound in gray cloth with cardinal printing. Published by the class.

This year book consists of a complete directory of the class with an autographic registry and the class constitution. One novel feature of the book is the printing in bold face type of those members who have shown enough interest to reply to requests for information. The others are in light face type. To the former the compiler expresses his thanks and hopes that the latter will acquire increased interest before the next edition of the book is printed.

NEWS FROM THE CLASSES

1868.

ROBERT H. RICHARDS, *Sec.*, 32 Eliot Street, Jamaica Plain, Mass.

The class secretary attended the meeting of the American Institute of Mining Engineers on March 19-22 inclusive. He met there many Technology men, most of them graduates from the mining course. During the meeting an excursion was planned and executed to visit West Point. Besides enjoying the wonderfully beautiful location and the fine buildings, the members were interested in inspecting the cavalry drill in which the young cadets were put through a series of rather intricate manoeuvres in the great cavalry drill hall. Before leaving the party gathered in the audience hall and listened to a most interesting talk by the commandant on the history and uses of West Point. This was replied to by Dr. R. W. Raymond, secretary emeritus of the Mining Institute, in which he gave a wonderful review of his connection with West Point and of that of his brother. We also had a very good talk from a young officer who is one of the teachers of the academy, and who is a former Tech student, on military matters.

The wife of our much beloved member, the Hon. Eben S. Stevens, has passed on after a long period of delicate health and slow decline. Stevens is meeting his loss very bravely indeed, and doing the wise thing in seeking occupation and diversion to occupy his mind.

The class secretary has recently made a professional trip to St. Lawrence County, N. Y., where he found some very interesting work going on, and problems waiting for solution.

He also attended the annual meeting of the Canadian Mining Institute in Montreal, Canada, on March 7, 8, 9. He found there much of interest in the papers on various mining problems, the engineers are meeting and solving in Canada. He especially enjoyed meeting John E. Hardman, class of '77, and comparing notes on experiences with him.

The secretary received a most welcome letter some time ago from William Tryon, '69, in which he seemed to dwell a good deal on the good old times when he used to be here. He wrote:

I have been away from my native land 40 years, which is a reasonably long stretch of time.

He married in '85 a Peruvian lady and had two daughters. It was his intention to come to the great reunion last year but the loss

of near relatives prevented him from carrying out his plans. He asked to be remembered to any of the "boys" who remember him and expressed the wish that he would see Prof. George Osborne, as well as the secretary, before the winter came on. Since the above letter was written the sad news comes to us of Tryon's death.

A letter from Josiah A. Osgood, '70, is quoted in part and shows him as active and enjoying things at the present time with a very warm memory of Technology. It is headed, Sierra Madre, Cal.:

I was nearly killed on August 3 in a street accident; for some time it was thought I was surely a gone veteran. For many weeks I lay in bed. It was because of this and much confusion at my home that your letter with its appeal for one dollar on account of a photograph of dear old Runkle lay lost among a lot of other letters. I have just come across it. Have I forgotten the sing that we had standing at the top of the stairs leading down to the chemical rooms! Oh, no! We were doing our best when Professor Storer yelled out, "What are you *howling around here for?*"

I meet some of our M. I. T. boys in Los Angeles at times. I always place all the literature received from M. I. T. in our public library. I hope to visit Boston this summer, and if I do I shall try to find you.

Dear old Tech, how it has grown! When you and I first knew it it was in swaddling clothes, but now its garments are heavy with millions in gifts.

I have before me in my den and among my most precious mementoes of past happy days a large photograph of the officers of our M. I. T. battalion. I prize it highly.

1870.

CHARLES R. CROSS, *Sec.*, Mass. Inst. of Tech., Cambridge, Mass.

Notice has been received of the death of Walter Clark at Bronxville, New York, on March 12, 1917. A fuller notice will be given later.

Among the most important gifts and legacies received by the Institute during the last fiscal year was the bequest of Edmund K. Turner for the benefit of the department of civil engineering amounting to \$177,962.25.

Dr. Edward Marshall Buckingham, reference to whose death has already been made in the REVIEW, was born on Beach street, Boston, August 9, 1848, and died suddenly of angina pectoris December 23, 1916. His remains were cremated and rest at Mt. Auburn.

Doctor Buckingham was a student at the Institute and a member of the class of 1870 during the years 1866-68. He began the course in civil engineering but his studies were interrupted by illness and upon his recovery he decided to enter the profession of medicine. He received the degree of M. D. at the Harvard Medical School in 1874 and spent a year in further study in Vienna.

In December 1876, he married Miss Alice Darracott Nason of New York who survives him with two daughters, Miss Edith Nason Buckingham, and Mrs. Margaret Gulick, wife of Professor Addison Gulick of the University of Missouri.

A memorial sketch of the work of Doctor Buckingham written by Dr. George W. Gay, of Boston, was published in the *Boston*

Medical and Surgical Journal, May 31, 1917, from which with the kind permission of the author the present notice is mostly paraphrased.

Dr. E. M. Buckingham was one of thirteen grandchildren of Joseph Tinker Buckingham, a man of wide reputation as the editor of the *Boston Courier* and *New England Magazine*. He was the son of Dr. Charles Edward Buckingham, A. B. Harvard College, 1840, M. D. 1844, born 1821, died 1877, who was a professor in the Harvard Medical School from 1868 until his death, rendering in this office great services to medical education.

The subject of this sketch entered upon the practice of his profession in Boston on his return from study abroad and devoted himself particularly to diseases of children. For several years he was visiting physician at the Children's Hospital and also at the Boston City Hospital. He belonged to a number of medical associations, was treasurer of the Massachusetts Medical Society for twenty years, and published many articles of value upon medical subjects. He was a thoroughly conscientious, self-sacrificing physician who won the confidence and esteem of all with whom he came in contact, an excellent family practitioner who thought of his patients as persons and not merely as "cases." "He did not send a patient with limited means to Palm Beach nor order a course of treatment that he knew he could not afford." He did a great amount of charity work throughout his entire professional life and supplied many poor people with medicine and other necessities at his own expense, he was in truth a "beloved physician."

Doctor Buckingham was very fond of reading, especially of history and was also greatly interested in the railroad problems of the country. Though not a member of any military organization he was nevertheless much interested in military tactics throughout his life. The writer thinks that this fondness dates from the instruction in military drill at the Institute, and recalls very clearly the neat trim figure of Buckingham as a boy when an officer of the Institute battalion in Boylston Hall.

Our classmate was one who showed his views of life by his living rather than by his speaking. The secretary recalls, however, that as a student he frequently spoke of his regard for his pastor, the Reverend Edward Everett Hale. His feeling of responsibility in later years is doubtless expressed in a sentence from the Talmud which Doctor Gray found in one of his medical note-books.

"The day is short and the work is great; the reward is also great and the Master presses. It is not incumbent on thee to complete the work, but thou must not therefore cease from it."

1874.

CHARLES FRENCH READ, Sec., Old State House, Boston, Mass.

It may interest some of the class to know of the efforts that Barrus is making in behalf of the work of the American Society

of Mechanical Engineers. For a number of years he has been chairman of the Power Test Committee of that society, a committee engaged in standardizing the methods of testing power-plant apparatus, such as boilers, engines, turbines, gas producers, locomotives, etc., and just now he is endeavoring to awaken or broaden the interest of engineers and power users in the report of the committee which is published in the Transactions of the Society. If any members of the class are themselves interested in this subject, or have friends who might become so, he would be glad to hear from them. Barrus is also busying himself with expert and consulting work in various parts of the country, relating largely to steam engineering and fuel saving.—George B. Elliot, of Elliot & Whittier, real estate and mortgage broker in his thirty-fifth year in the Rogers Building, 209 Washington street, reports his firm has put Point Shirley, Winthrop, Mass., on the map, developing the 45-acre tract formerly owned by the Revere Copper Company so that over half the lots are covered by neat little cottages and bungalows occupied by their owners. The unsold half of the land is now taxed for as much as the whole tract cost. Elliot & Whittier's branch office at Winthrop Centre does the bulk of the real estate and insurance business in that town.—Colonel Colt is still at the head of the U. S. Rubber Company, and its allied interests of great magnitude. Although absorbed in these and other affairs he is always loyal to the class of '74. He was among the first to place the resources of his company at the disposal of President Wilson in anticipation of war with Germany.—Emerson of Honolulu, at last accounts was bemoaning the effect of the tariff legislation on the sugar business of the island, and indirectly on his own finances. In a letter of May 3, 1916, he writes:

Poor stricken Belgium demands and receives all we can do for her. Mrs. Emerson, born in England, was educated in Belgium, and she is carrying on a most important system of relief for the needy of that much afflicted country. Our hearts are in that work more than in any other.

Chase continues to be one of our most public-spirited members. He is an active attendant at the various meetings of societies and associations of which he is a member, and he never fails to look up members of the class and other Tech men on his frequent business trips South and West.

Burrison writes:

From March 6 to the 10th I was the guest of the Tech Club of New York. Nothing too good for me. A luncheon in my honor on the 7th was most delightful as I met quite a number of my old students, some of whom I had not seen for years. It was a marked event in my life. The Institute has become a big—very big—institution, and we are proud to be a part of it. My "boys" of years ago have become men doing big things in the world. We are a power in the land.

The secretary is hard at work as a member of the committee which is compiling the history of the Institute for the past fifty years. The historical exhibit which is to be displayed in the

President's former office in the Rogers Building will be opened probably during the coming fall. The custodian of the exhibit will be Theodore Grover, who is pleasantly known by hosts of students at the M. I. T.

The secretary is pleased to announce that he became a grandfather on March 31 last; his son and daughter-in-law, Mr. and Mrs. Harold C. Read of Brookline, having had born to them a son, Robert Scudder Read.

1875.

E. A. W. HAMMATT, *Sec.*, South Orleans, Mass.

The thirty-fifth annual meeting of the class of '75 was held at Young's Hotel, Boston, on February 23, 1917, at 7 p. m. It was a great disappointment to learn that on account of sickness Mixer would not be able to be with us. At about 8 p. m. dinner was announced and those named took seats at table: Beal, Bowers, Dorr, Eddy, Hammatt, Hibbard, Lincoln, Plimpton, R. B. Smith and H. L. J. Warren. At 9 o'clock the meeting was called to order for business by President Hibbard. Records of the last annual meeting were read and approved and the treasurer made a verbal report; his books not being available at the time. Beal, on behalf of the executive committee, said that since their report had been eaten without protest (the dinner) it must be considered to have been accepted and placed on file. Upon motion, it was voted that the old board of officers be reelected for the ensuing year. Adjourned at 10.15 p. m.

The following deaths of members of the class are known: Charles O. Bradford, May 5, 1916; Elbert H. Gammans; Thomas H. Bakewell, January 9, 1917; William Rotch Ware, March 28, 1917.

The following revised addresses are noted: M. D. Burnett, mining engineer, C. W. & F. Coal Co., Orient, Ill.—R. H. Cushing, Lancaster Heights, St. John Co., N. B.—E. A. W. Hammatt, 6 Bridge St., Bellows Falls, Vt. (temporary) or South Orleans, Mass. (home).—C. L. Harris, Arcadia, Mo.—G. S. Hier, 261 Broadway, New York City.—B. A. Oxnard, Savannah, Ga., care of Savannah Sugar Ref. Co.—Wm. A. Prentiss, 1399 Northampton St., Holyoke, Mass.—J. B. Stanwood, 631 Lincoln Ave., Cincinnati, Ohio.—J. M. Taylor, 134 Parson St., Brighton, Mass.

1876.

JOHN R. FREEMAN, *Sec.*, Grosvenor Building, Providence, R. I.

The secretary records with sadness the death in November last of Samuel James. The news came with a shock because he had counted on a day of old time reminiscence with Sam on his way across the continent to Vancouver, but instead of the expected

meeting there came a telegram from his assistant that he had died suddenly on the day previous.

It had been a matter of great regret to "Sam" that certain inopportunity business calls kept him from the great Technology reunion of last June. He was one of the most whole hearted, kindly fellows that ever lived and prized the memories of Technology days all the more because his life work, as one of the most expert smelter managers extant, had kept him mostly on or beyond the frontier, and far away from old-time friends; first for some years in the mountains of North Carolina, then in the Rocky Mountain region, Utah and in old Mexico, always successful as a manager, often bringing plants into successful production where others had failed.

The secretary had a delightful day with him in Salt Lake City, about 20 years ago, while he was operating the Mingo smelter, and in the exchange of letters that came about once a year found him full of the same cheerful, boyish friendliness that made him a delight to his classmates of 41 years ago.

He was born in Cambridgeport, Mass., prepared for Tech at the Cambridge High School, took the course in metallurgy and graduated one of the most popular men in the class of 1876.

He was managing the smelter at Matahuela, Mexico, for some years until driven out by the revolution, and after waiting for some time at San Antonio, Texas, for things to quiet, moved to Northport, Washington, to undertake the management of the smelter there. He is survived by his wife and two sons. Mr. James leaves also three brothers and three sisters in widely-scattered places.

A letter received from him by Professor Richards, '68, and dated July 31, will be read with interest and appreciation:

Enclosed find \$5 for the President Runkle portrait.

I am here as manager for the Northport S. & R. Co., a very strong company owning the Hercules and the Tamarack companies in the Coeur d'Alenes, and am doing very well. We have been running nearly five months and I have been having my usual luck with the smelting, as we have run steadily and turned out a large tonnage of bullion.

We are a lead plant and also own the Penn refinery of which Mr. Faunce is president.

The secretary spent between four and five months last winter on a trip to the Orient, traveling in a party with Ambrose Swasey of Cleveland and John A. Brashear of Pittsburgh, both past-presidents of the American Society of Mechanical Engineers. We received special courtesies from many leaders in educational and industrial matters in the Far East. John R. Freeman, Jr., and Hovey T. Freeman, both of the class of 1916, M. I. T., also helped make up our party of five.

One of the features of special interest to us as Technology men was the midday dinner tendered us jointly by the Harvard and Technology clubs of Shanghai, China, a most enjoyable occasion, with

appropriate remarks on the reasons for, and the objects of, the alliance between Tech and Harvard and on present-day conditions, and engineering opportunities in the Far East. This was presided over by W. W. Stevens, '98, and there were present among others: F. W. McIntyre, '02, W. H. Taylor, '12, T. P. Hsi, '14, E. L. Hall, '15, E. C. Hsi, '15, Judge Lobingier, Harvard '88-95, Tung I. Hsien, Harvard '84, Tong Pan Tung, M. I. T. '13, Consul General Thomas Sammons, H. H. Arnold, Edgar Quackenbush and S. H. Ransom.

While in Shanghai we received special courtesies also from Tong Pan Tung, '13, who is assistant engineer on river conservancy problems and also we found Hou Kun Chow of 1914 at work on his newly invented typewriter for the Chinese language, and at St. John's College we met Prof. Taylor, '13.

At Nanking we had a pleasant meeting with Y. T. Van, M. I. T. 1913-14, who is now teaching the art and science of reinforced concrete and mathematics at the Government Waterways Engineering School, and at Canton we saw Tse Tsok Kai, and the municipal electric lighting station of which he is the assistant general manager.

In Tokyo we unfortunately missed Mr. Fukuzawa, who has become one of the important factors as editor of the leading Japanese newspaper.

Another of our most interesting days was spent with Mr. and Mrs. Walter D. Townsend ('76), at their home in Chemulpo, Korea. Townsend is in the United States at the present time on his first return since leaving for the Far East about thirty-seven years ago. Townsend always had a streak of the "wanderlust." Books of travel were his chief boyhood recreation and after graduation in '76, he promptly hiked to an outpost of civilization and mining in the Rocky Mountains, near Georgetown, Col., but this was not far enough off, and after debating Mexico, South America, etc., he sailed for Japan, and for many years combined mining engineering with the agency for American commercial houses, first in Yokohama and later in Korea, and has become perhaps the best known and most prominent American resident in that country. He has passed through many stirring experiences and seen the general government twice changed over and witnessed some of the naval engagements of the Russian-Japanese war.

Years ago, he married a charming and cultivated Japanese and their home was for many years a rendezvous of the naval officers on the Korean station. By this means and through subscription to a New York daily and to several of our American magazines, he has kept better informed on American happenings than many of the folks at home, only, as he expresses it, his news is always about four weeks late.

His interest in commercial affairs has not extinguished his fondness for mining problems and he is a director in the Chicsan Mining Company, one of the most successful of the Korean gold mines.

haps fifty years to work out their own salvation under the present stimulus and without interference from their Japanese neighbors across the channel, they bid fair to become one of the great nations of the world."

At Shanghai and Canton we were, of course, particularly interested in the river life, and at Canton in the prospects of their non-sectarian Christian college, which has now attained to a high standard of educational work and is presided over by a physicist, a former engineer and coast survey assistant and one of the noteworthy modern Chinese explorers, Dr. Charles K. Edmunds, who in intervals between college work, has been crossing China north and south and from Tibet to the sea, making magnetic and topographical determinations.

In the Philippines our ten days brought us in contact with many scientists and engineers and with some former Technology men among them. We found these engineers becoming discouraged over the change in the administration, and the reported change from standards of efficiency to those of politics, but it made us proud of our Americanism to see the magnificent work done in road building, in sanitation and in many lines of internal improvement.

On every hand we heard good words of the wonders accomplished by Dean Worcester and by our present member of the Technology Corporation, the former governor, Cameron Forbes.

We motored to Baggio, up the celebrated Benguet road, on another occasion to the water works sources and on still another southward for a hundred miles, and everywhere witnessed the wonderful accomplishments of the past seventeen years. We were particularly impressed with the work of the Bureau of Science.

In Japan, in two weeks of touring in the cities of Nagasaki, Kobe, Kyoto, Tokyo, Nikko and Yokohama perhaps our day of chief interest was in the electrical lamp works owned in part by our General Electric Company, where we saw the entire establishment, from glass works, tungsten reduction and research laboratory, officered and manned by Japanese under the leadership of Japs trained at Schenectady, and with the working people chiefly girls, apparently no less deft and efficient than the best that can be found in the U. S. A. Under such conditions and with a labor cost perhaps averaging less than one-sixth part of that prevailing in the States, is it remarkable that the capital stock in this company now sells at more than five times its par value and that it has a fair show to expand until it supplies all of the electric lamps of every kind needed in the Orient.

The night before leaving Tokyo we had the honor, as representing American engineers, of a reception and dinner tendered by a hundred of the leading engineers and scientists of Japan. The Japanese have a hospitality that is kindly and delightful in many ways.

Japan has lately inaugurated a national research council, and some

of the great wealth that has been acquired recently in making war munitions for Russia and otherwise has been generously given to this cause, so this scientific research council will start out with an endowment of well toward a million dollars.

By the ability and kindness of those present, some of us were reminded of the kindly courtesies that the party of American engineers received in Germany the year before the war and *that wars are not brought about by the scientists and engineers* but by powerful groups of the Prussian military type, who do much of their planning and scheming in secret.

The writer in his after dinner remarks and and after a heart-felt expression of appreciation of the kindly hospitality shown American travelers in Japan, while taking the Research Council as a text could not refrain from reminding that in Germany so long as its research scientists and its chemical and industrial engineers were given the leadership, the country was fast making a commercial conquest of the world and had students from all lands in its schools and laboratories, but that when free rein was given to the military party there came a change, and all could see what had been the result already and what was likely to be the further result of these unwise ambitions a few years hence.

At Honolulu, we met several Technology friends among them "Joe" Emerson of '74. and were personally conducted on a seven-day trip through the islands by B. F. Howland, M. I. T. '13, one of the best posted engineers in that region.

We saw the wonderful sunrise at an altitude of 10,000 feet, from the brink of the greatest extinct crater in the world and later, under the guidance of Professor Jaggar, visited the Technology Volcano Laboratory and stood for hours, fascinated on the brink of Kilauea, which is now in an uncommonly active state of eruption. We were greatly impressed by the studies in progress by Professor Jaggar and his able assistant, Mr. Wood, which have been carried on for five years past, in part from certain special research funds of Technology and with the aid of the Technology seismographs. Professor Jaggar appears to be on the verge of several extremely interesting discoveries, one of which is that the heat manifested in this lake of fire comes largely from the local oxidation of the sulphur in the glowing, boiling mass, the necessary oxygen being dragged down in the frothy crust by the convection currents, so that probably the temperature of the top hundred feet of this ten-acre furnace-pot is much above the temperature of the less fluid core squeezed up through the volcanic aperture from below.

1877.

RICHARD A. HALE, *Sec.*, Lawrence, Mass.

The fortieth anniversary and dinner of the class of '77, Massachusetts Institute of Technology, was held at the Engineers Club,

Boston, on Wednesday, February 28, at 7 p. m. Owing to the death of Herbert Jaques, president, and the absence of B. T. Williston, vice-president, in the South, it was necessary to elect a chairman and Robert D. Andrews was elected temporary chairman. The officers elected for the ensuing year were: Robert D. Andrews, president; B. T. Williston, vice-president; and Richard A. Hale, secretary and treasurer.

The following members were present: Robert D. Andrews, of Andrews, Jaques & Rantoul, architects, Boston; Francis H. Bacon, of F. H. Bacon and Company, furniture and interior decorators, Boston; William B. Bradford, draftsman, Boston Navy Yard, Boston; Charles A. Clarke, of Hill, Clarke and Company, dealers in machinery, Boston; Arthur G. Everett, architect and former building commissioner of Boston; A. S. Glover, secretary of the Hersey Manufacturing Company, Boston; Edmund Grover, civil engineer and landscape architect, East Walpole; Richard A. Hale, principal assistant engineer of the Essex Company, Lawrence; Charles F. Lawton, contractor and dealer in crushed stone, New Bedford; Charles H. Norton, engineer with the Massachusetts Highway Commission, Boston; C. H. Peabody, professor of naval architecture at the Institute; Arthur L. Plimpton, civil engineer, surface lines of Boston Elevated Railway Company, Boston; George F. Swain, professor of civil engineering at the Institute and consulting engineer on various important matters.

Dr. Richard C. Maclaurin was expected as the guest of the occasion, but other engagements prevented his acceptance.

The secretary announced the deaths during the year 1916 of John Alden of Lawrence, J. Marshall Colcord of Saratoga Springs, and Herbert Jaques of Boston. Suitable memoirs have been prepared for publication in the TECHNOLOGY REVIEW.

No special address was delivered, but a general interchange of past experiences was held. George Bartol was authorized to represent the class of '77 at the Technology Clubs Associated convention to be held in Cleveland, in April. A committee was appointed consisting of the president, secretary and Mr. Clarke, to arrange for a day's outing at the time of the commencement in June, at one of the country clubs about Boston, and the Brae Burn club was suggested by Mr. Clarke.

Letters of regret at being unable to be present were read by the secretary. Fred Wood 'phoned from Baltimore extending his congratulations to the members and regretting that he could not attend.

Mr. and Mrs. Joseph P. Gray are spending a portion of the winter months at Seabreeze, Florida, where they will probably remain until April 1.—George W. Kittredge and family have just arrived from a two weeks' trip through Florida visiting Palm Beach, Ormond, and stopping at Washington on their return. His



ALBERT S. GLOVER, '77

golfing is apparently excellent and he will join the reunion crowd in June if possible.

Carter writes his usual entertaining letter as follows from Miami, Florida; date of February 8:

I suppose this is the time of year you are expecting letters from those members of '77 who won't be able to attend the class dinner. I wrote you about a year ago, from some place down here, as I passed the winter on my boat in these waters. On March 3 I started for California (having laid up my boat at Fort Myers) and took in the Mardi Gras at New Orleans on the way. Considerable of a fake but as it was not out of my way I did not mind. Put in two weeks at Pasadena and San Francisco and on March 24 sailed again for Honolulu, my old stamping ground and the finest place God ever made. Stayed there until July and then went back to San Francisco and went up to Alaska. The least interesting trip I ever made. Came back to San Francisco and was again invited to camp out with the Bohemian Club at their Redwood grove during the annual "Jinks." Stayed around San Francisco till September and then started east by way of the Canadian Pacific as I thought there would be a universal railroad strike on the U. S. railroads. Instead of that our United States Government surrendered to the Amalgamated Society of Railroad Buccaneers and I therefore went to expense for nothing.

Stayed at my shack at Crane Lake from September 10 to October 25, shooting ducks, prairie chicken, and geese and then went along to Boston where I had the pleasure of lunching with you and a few '77 men. In November went to the Santee Club in South Carolina and shot ducks and snipe, turkeys and deer. In December came to Florida and got my boat in commission and have not slept a night ashore for seven weeks. Shall stay here (Florida west coast) until April as the tarpon fishing does not begin until the last of March. Plans then uncertain.

Don't fancy Boston much especially after the Massachusetts legislature passed that tax robbing a man of 6 per cent. of his income. This tax in Honolulu is $1\frac{1}{2}$ per cent. and I may make my residence there, if I ever get a residence anywhere.

I have joined the "Massachusetts Society of Mayflower Descendants" being eligible through my eighth great-grandfather, John Howland.

We have just had one of the biggest freezes Florida has ever known. It got down to 26° here and froze up all the vegetables. Where I was at Cape Sable (100 miles south) it was 35°, and two oil stoves were required to keep warm.

Are we going to war or will our pacifist rulers let Germany kick us all around the lot. This country is rapidly going to ————, so I don't know as it makes much difference anyway.

Remember me to all the boys.

Charles L. Harris writes from the Rolston Hotel, Coden, Alabama, on February 21, that his health is much improved. He has had his full share of sickness, being laid up for several months.

ALBERT SEWARD GLOVER

Albert S. Glover was born at South Boston on April 6, 1855, and died April 23, 1917. His father was Albert Henry Glover, originally of Ipswich, Mass., and his mother was Mary Ann Wilson of Salem. His parents moved to Cottage Farm when he was a young boy, and to West Newton in 1864. For many years Mr. Glover's father was master builder for the Boston & Albany Railroad, having charge of the construction of various wooden bridges and buildings, some of them very large.

Albert S. Glover attended the Newton High School, where he was a leader in athletics, particularly in baseball and football. He was graduated in 1873, being a classmate of John A. Gould.

In the fall of that year he entered the Massachusetts Institute of Technology with the class of 1877, having as classmates Professor George F. Swain, Richard A. Hale, Henry H. Carter, Joseph P. Gray, the late E. H. Gowing, George W. Kittredge, and other well-known engineers.

In 1875 when work on the Sudbury Water Works for the City of Boston was actively begun, Mr. Glover left the Institute and took a position on the engineering force, being associated with Frederic P. Stearns, George S. Rice, Wilbur F. Learned, and others. A little later he was assigned by the engineer, Mr. Alphonse Fteley, to act as his secretary, and as assistant to the paymaster and purchasing agent; and in 1879 he became paymaster and purchasing agent. In July, 1879, he was elected water registrar of the city of Newton—the executive officer of the Water Department—and held that position until January 1, 1890, when he resigned to become secretary of the Hersey Manufacturing Company, having charge of sales of Hersey meters in New England. To this work he devoted the remainder of his life. He was also clerk of the Common Council of Newton from 1882 to 1887.

Mr. Glover was married on September 21, 1875, to Mary Wales Robinson of Newton, who survives him, with their daughter, Mary Wales Glover, a graduate of Smith College.

He was a member of the following societies and clubs, in addition to the New England Water Works Association: American Water Works Association, Boston Society of Civil Engineers, Newton Club, Boston City Club, Engineers Club, Hunnewell Club, Middlesex Club, Economic Club, Bostonian Society, Brae Burn Country Club, Tedesco Country Club.

His activities with the New England Water Works Association are of particular interest to us. His deep concern in its affairs covers the entire range of its existence. Prominent in its organization on July 21, 1882, he remained an active member until February 10, 1915, when he was named an honorary member. His death reduces the number of living charter members to three. Mr. Glover possessed a well ordered mind and was recognized as a skillful organizer and leader. He had a decided talent in naming the right man to take charge of special investigations.

He was secretary of this society 1884–87, treasurer 1887–89, editor 1884–86 and junior editor 1889–91. His early activities resulted in inducing a large number of the better known water officials throughout the country to join the association and during the existence of the organization he has probably influenced more to become members than has any other member.

The scheme of presenting the transactions of this association in the form of a quarterly publication was first conceived and suggested by Mr. Glover in 1886, when he then outlined the plan in detail which included the addition of an up-to-date index from time to time. The *Journal* of the New England Water Works Associa-

tion is the result and every member will testify to the value of the index.

His interest and enthusiasm has never faltered. From soon after his connection with the Hersey Manufacturing Company, he declined all official connections, but he continued to be a silent influential worker. He was probably the best informed member as regards incidents, happenings, and procedure in past meetings. He was such a walking encyclopedia in these matters that he was constantly sought by the numerous committees for information and counsel.

The Executive Committee of this association has expressed its sense of the loss suffered by the association and its members in the following resolution:

WHEREAS, Since last the Executive Committee of the New England Water Works Association met, there has passed away one of the charter members of the association, and feeling our great loss as we do, we cannot allow this meeting to close without placing upon record some expression of the sorrow which oppresses us; therefore be it

Resolved that this committee realizes that when death came to Albert S. Glover, our association lost one of its most valuable members. The committee also realizes that each of its members has lost a true friend, one who was always ready to advise and assist when needed.

His record for sterling integrity, his high standard of honor and his absolute fairness in all his business affairs has elevated the standard of the water works business in New England, and is an inspiration to all who have had the good fortune to be associated with him.

The memory of his many good deeds will remain with us through all the years. Be it further

Resolved that the committee wishes to convey its most heartfelt sympathy to his family, and that the president be instructed to send to Mrs. Glover a copy of these resolutions.

Mr. Glover possessed a very sympathetic as well as a very sensitive nature. The generosity of his sympathy to his friends who were in trouble was well known and a quiet talk with "Bert" was sure to leave the friend more buoyant with the perfume of good cheer in a way that held them to him with "hooks of steel" and rendered him their helper, comforter and friend.

Your committee have taken up this study with heavy hearts. It is indeed sad to realize that a spirit, so brave, cheery and sunny, is to be with us no more. We keenly realize that the association has lost one of its most trusted and faithful workers and that each of us has lost a loyal and true friend.

R. C. P. COGGESHALL,
CHARLES W. SHERMAN,
JOHN C. WHITNEY,

Committee.

In addition to the above memoir, the secretary wishes to add a few words regarding his connection with the class of '77.

He was a regular attendant at the annual reunions when possible and very rarely he missed a meeting. He enjoyed the meetings

and his presence was always welcomed by his classmates on these occasions.

Of a quiet disposition he had a fund of information and was equally interested in the experiences of others. He was loyal to the Institute and always ready to coöperate and assist in many ways. His memory will live in the minds of those of us who are left with the recollection of his usefulness in this life.

JONATHAN MARSHALL COLCORD

Mr. Colcord was born in Boston, Mass., on September 17, 1856, and died October 19, 1916. He was the son of Samuel and Abigail Colcord of Boston and received his early education at Chauncy Hall School. He then entered the Massachusetts Institute of Technology where he remained for about two years when he entered the store of T. Metcalf & Company, druggists, Boston, where he remained for four and one-half years, meanwhile attending the Massachusetts College of Pharmacy, of which his father was president. He graduated in 1878 with honors, being valedictorian of his class. He came to Saratoga in January, 1879, where he located in the drug business.

On September 19, 1882, he married Phebe Webster Page of Boston and has three children, Natalie, Webster H., and Marshal, all who survive him. He has a half brother, Wallace Colcord, of Boston, and a half sister, Miss Mabel Colcord, of Washington.

On first arriving at Saratoga Springs Mr. Colcord took an active interest in the Masonic Fraternity from whom he received many honors. He was raised to the degree of master mason in Rising Sun Lodge, 103, F. & A. M., April 4, 1881, and held the office of worshipful master during 1885-6. He was exalted to the sublime degree of royal arch mason, May 10, 1881, and held the office of high priest of Rising Sun Chapter, 131, during 1887-9. He had been principal sojourner in Rising Sun Chapter for the last twenty-five years, and for twenty-eight years assisted in the raising of every candidate to a master mason.

He was a past illustrious master of Cryptic Council, 37, R. & S. M., and was knighted in Washington Commandery, 33, K. T., March 29, 1882. He held the office of eminent commander during the years 1888-9. He had been treasurer of the commandery for the last twenty years.

Mr. Colcord was a past grand representative of the Grand Commandery, a life member of Oriental Temple, A. A. O. N. M. S., and a past grand representative of the Imperial Council. At the time of his death he was president of the Immediate Relief Association and was a member of the Masonic Veterans Association. He also was past commander of the Past Commanders' Association of this district, with headquarters at Troy.

Mr. Colcord always took a deep interest in the activities of Free



J. MARSHALL COLCORD, '77

Masonry and, as will be seen from his record, enjoyed the unusual distinction of having occupied every office in all four bodies. He also took a considerable interest in the Royal Arcanum, and was past regent of High Rock Council, 652, of this city, a member of the Royal Arcanum and Masonic Immediate Relief.

Possessing an unusually pleasant disposition and a wealth of ready wit, Mr. Colcord was in great demand at the social gatherings of the Masons and Arcanumites and there were but few occasions of the kind at which he was not a participant.

As a business man he stood high in the esteem of all his fellows and his death will be mourned by his numerous friends and acquaintances.

During his course at the Institute he made many friends among his classmates and professors by his pleasant and genial manner and the courtesy that he showed every one with whom he came in contact. He was known to all his classmates as "Jimmy" Colcord and he was quick to respond to all matters relating to the interest of the class and Technology. The secretary of the class looked him up on the occasion of a trip to Saratoga Springs and received a most cordial welcome from him.

The Business Men's Association of Saratoga Springs at a recent meeting made the following statement:

"Jonathan Marshall Colcord, a member of this association, from its very beginning, died on Thursday, October 19, 1916.

"For years he had been identified with the life of this community in a variety of ways. In business, fraternal and social circles he had proved himself a man of reliability and force. Few men have gone out from among us who will be as greatly missed as he will be. In business his name was a synonym of honorable dealing; in fraternal work, it was a synonym for genuine brotherhood; in social life it was a synonym for delightful companionship. For his integrity and faithfulness he became eminently distinguished and his name will long be held in high veneration by those whose good fortune it was to be acquainted and associated with him.

"To Mrs. Colcord, the daughter and sons, to whom is left the precious heritage of a life well spent, this association extends its sincere sympathy. Much as we loved him they loved him more; much as we shall miss him, they will miss him more. With them we sorrow and mourn."

With his high standing in the business community he has left an influence behind him which cannot fail to continue as in the past and as he would have it progress for the good of the community. He has laid a foundation of character that will enable him to continue his useful work on a higher plane in the new world to which he has gone, with the example which all of us should follow in our own lives.

The body was escorted to the Bethesda Episcopal Church,

where Mr. Colcord was a former vestryman, by the Masonic Bodies and the Royal Arcanum for services; and the Masonic Burial Ritual was later read at the Masonic Temple, the interment being made in Mt. Auburn Cemetery, Boston.

1879.

CHARLES S. GOODING, *Sec.*, 27 School Street, Boston, Mass.

It becomes the painful duty of your secretary to announce the death of one of the members of our class, Henry A. Boyd of East Greenwich, R. I.

Mr. Boyd was born in Portland, Me., December 13, 1857, came to Boston while a youth and there attended Chauncy Hall School and after graduating from Chauncy Hall School entered the Massachusetts Institute of Technology in the class of '79. He attended Technology for the first year and after leaving went to McKeesport, Pa., where he was first employed with the McKeesport Locomotive Works and then with the National Tube Company as assistant to the general superintendent. His health necessitating a change of climate, he next went to Buffalo, N. Y., where he was located for about twenty years as mechanical and equipment engineer. Leaving Buffalo, he made his home at Bethlehem, Pa., and was occupied as general sales manager of the Lehigh Stoker Company for several years. His health failing he gave up his position with the Lehigh Stoker Company and on February 1 of this year went to his summer home at East Greenwich, R. I., where he died suddenly on April 17.

Mr. Boyd was married twice. His first wife was Phoebe E. Saunders of McKeesport, Pa., and they had one daughter, Mrs. Alfred G. Pope of Portland, Ore. His second wife, who survives him, was Mabel R. Walford of Buffalo. They had three daughters, Mabel, Edith and Irene, who were living at home at the time of Mr. Boyd's death.

Mr. Boyd was a former member of the American Society of Mechanical Engineers and the Society of Mining Engineers, the Technology Club of New York, the Central Railway Club and was one of the organizers of the Technology Club of Western New York and its first president. He was also a member of the Boston City Club.

During the past three years it has been the secretary's privilege and pleasure to have met Mr. Boyd quite frequently. He was one of the business committee of the class and took a great deal of interest in the class affairs. Every time that he came to Boston he would call and his visits were always most welcome.

His was a fine character, honest, genial, and he stood always ready to do anything he could to help a friend.



HENRY A. BOYD, '79

1881.

FRANK E. CAME, *Sec.*, Metcalfe Apartments, Westmount, Montreal, P. Q.

FRANK H. BRIGGS, *Asst. Sec.*, 10 High Street, Boston, Mass.

F. A. Adams' address is now Room 237, Westminster Hotel, Boston.

Ben Collins is a member of the Massachusetts Legislature again this year.

1882.

WALTER B. SNOW, *Sec.*, 136 Federal Street, Boston, Mass.

The thirty-fifth anniversary dinner was held at the Engineers Club on Thursday evening, February 8. Darrow, French, Gooding, Hall, Keyes, Snow, Walker and Warren were in attendance. Munroe, Herrick and Jenkins who are usually present were unavoidably absent.

John F. Low still claims the record on class grandchildren as his *third* appeared in January. He calls upon his classmates to speak up if they can show a better record.—John M. Keyes, who renewed acquaintance with the class at the Reunion and the anniversary dinner, is chairman of Commissioners of the Department of Roads and Bridges of Concord, Mass.

At the first meeting and luncheon of the Technology Women's Association in the new buildings, Miss Clara P. Ames was elected recording secretary.

The secretary has had a very pleasant call from Charles J. A. Wardwell, who was with the class from '78 to '80. He is now located in Detroit in engineering work, having moved from Wabash, Ind. His youthful spirit, notwithstanding his years and gray hair, was shown by his energetic desire to get into active service at the front.

Mrs. Margaret Noyes Otis, the widow of Professor Otis, died in Boston, March 26. She will be remembered as a special student in the class of '82.

1885.

I. W. LITCHFIELD, *Sec.*, Mass. Inst. of Tech., Cambridge, Mass.

The annual class dinner was held at the University Club, Boston, on the evening of April 7, sixteen members of the class being present.

The dinner was not made much of a function this year because of the character of the events transpiring all about us and the conversation about the table referred mostly to the war.

Charlie Eaton made a report for the '85 Flag Pole Committee, stating that the pole which '85 had pledged had been made and paid for. The massive base is of bronze and the designs are by

Tiffany of New York. Eaton's share in this generous gift to Alma Mater was a very large one and every member of the class is grateful to him for his generosity and public spirit. If there is any better Tech man on the map he will have to qualify within three-sixteenths of a point in order to win out against Charles.

Horace Frazer was elected president and Dr. Schubmehl, vice-president of the class for next year.

A toast was drunk to the members who have passed away since our last annual meeting.

The class of '85 has suffered severe losses during the past year. Our classmate, William L. Mahon, also a graduate of the University of Michigan, died very suddenly of heart trouble, at Ogden, Utah, October 6, last year. He was on a business trip for the Taylor, Wharton Iron and Steel Company with whom he was connected. At the time of his death Mahon resided in Butte where he leaves a widow. He also leaves two sons, Ross and William L., Jr., both of whom reside in San Francisco.

Mahon made a host of friends in the class when he was here. Since graduation he has been in the West most of the time and we have seen little of him. He was a loyal member of '85 and kept constantly in touch with the secretary.

The members of the class were profoundly shocked when, on January 7, it became known that Tenney White had passed away after an illness of a few days.

Of late years Tenney has faithfully attended all class functions and no meeting of the class of '85 was complete without him. There was never a dull moment when he was about and his class relations were very strong with him.

Tenney was born in Haverhill, Mass., January 29, 1862, the son of James D. and Ann Tenney White. After graduating from the high school at Haverhill, he studied at the Institute of Technology with the class of '85 and afterwards fitted himself for the manufacture of textiles in the machine shop of Davis & Furber at North Andover, and the Pepperell Manufacturing Company, of Biddeford, Me. About 1890 he became connected with the Manville Company of Manville, R. I., as assistant superintendent. He was later transferred to the Globe Mill at Woonsocket, operated by the same company, in the position of superintendent, and later returned to Manville as manager of the plant.

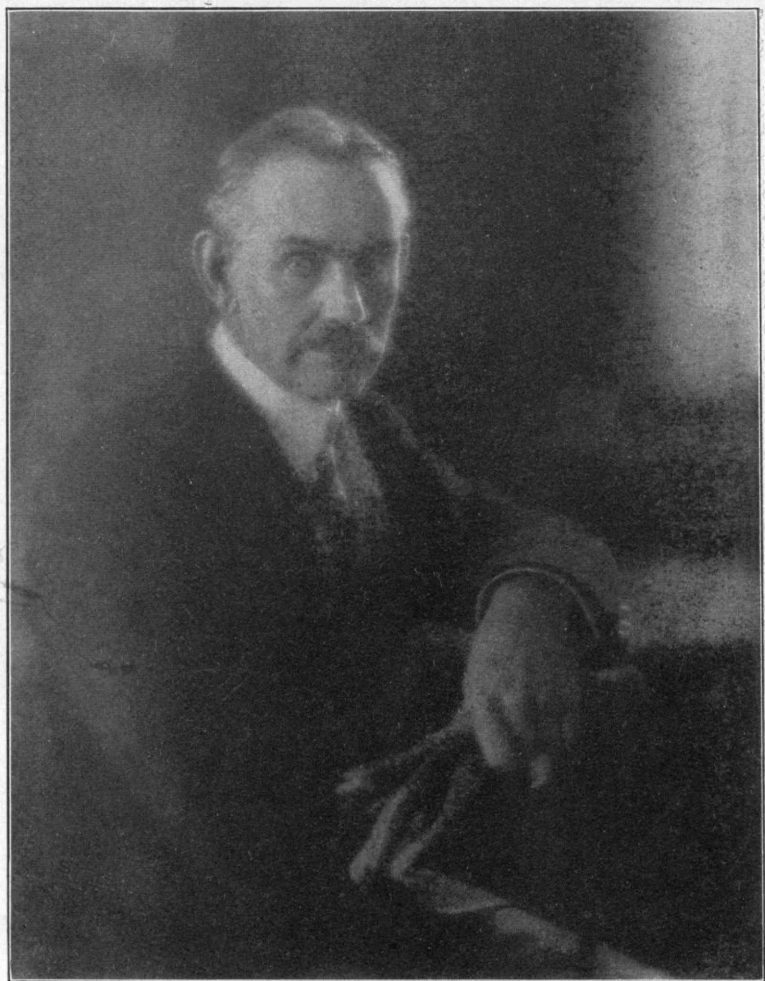
He gave up active business about seven years ago, and after a year's travel abroad took up his residence in Brookline spending his winters in California and the South.

He was a director in the Laconia Car Company, of Laconia, N. H., a member of the National Association of Cotton Manufacturers, the Southern New England Textile Club, the Algonquin Club and the Engineers' Club of Boston, also of the Brae Burn Country Club of Newton.

He was a direct descendent in the ninth generation of William



A. TENNEY WHITE, '85



WILLIAM J. MULLINS, '85

White of England, who settled at Ipswich in 1635, and in 1640, with about six others, moved up the river and became the original settlers of the town of Haverhill. The land was purchased from the Indians, and the original deed given by them is now in the keeping of the Savings Bank at Haverhill.

In 1680, William White, the ancestor, built what is now one of the noted old houses of New England, in which Tenney White was born, and which he owned at the time of his death. It has the distinction of remaining in the original family through nine generations.

Tenney White was one of the first to develop the manufacture of the finer class of fancy cotton goods in this country. He was for many years a prominent figure in the textile industry, and was considered one of the leading mill experts of the country.

He is survived by a widow and a sister, Mrs. Nathaniel Stevens, of North Andover.

Another member whom we had seen more of recently and always welcomed with joy at our class meetings was Mullins. We had seen little of him until the Twenty-Fifth reunion of the class, at Squam Lake, which he attended, although he seemed hardly able to make the trip. The happy days in camp made a change that was noticeable in him and ever since then he has been present whenever it was possible for him to attend the meeting.

During our college life, and even since, some of our classmates we have never really known. During these last years, however, we have made up for this in a large measure and Bill Mullins was one of those who became endeared to all of our hearts. His loyalty to the class was profound. Every letter written to the secretary breathed it and every act showed it. His death, late in January, cast a gloom over us all. The end came in Pittsburgh, where he had gone to attend the funeral services of his brother. He took a severe cold and died of pneumonia.

Mullins took great pleasure in his home and in his church life and it is in these relationships that his loss will be most keenly felt.

After leaving the Institute, Mullins went to Franklin, Pa., as chemist for the Standard Oil Company. He resigned in '93 and devoted himself to art and church work. He was one of the most substantial citizens of the city, taking particular interest in the Franklin Public Library and the Franklin Hospital. He was a great lover of art and was an unusually fine amateur photographer.

In 1888 he married Elizabeth Johnson Bostwick who survives him with three daughters, Miss Marjorie, Mrs. Louise Mullins Thompson and Miss Elizabeth Allison Mullins.

It is with deep regret that we note the death of Margaret, daughter of Tom Fry, who passed away at her home in Claremont, N. H., on February 21, at the age of twenty years. She had entered the Stevens High School of Claremont with the class of

1915 but ill health prevented the completion of her course. She afterwards was a student at Dana Hall, Wellesley.

Frank Page has probably more lines out than any other member of the class. His whole life is bound up in the advancement of Springfield, his adopted city, of which he is chairman of the Board of Trade.

Just now he is boosting an industrial exposition and export conference to be held in the latter part of June, on the Eastern States Exposition Grounds of Springfield. This is a very large order and promises to be most successful under Frank's efficient management.—The following extract from the *Farm and Fireside* which is being copied extensively all over the country relates to Hugh MacRae's remarkably successful experiment in coöperative colonization:

To raise useful men and women as well as good vegetables is the object of a colonization plan operated in eastern North Carolina. The plan was started ten years ago by Hugh MacRae, who inherited twelve hundred acres of truck land from his father. Now the colonization plan is operated on several thousand acres.

Within the reach of all the families of St. Helena, one of the settlements, an amusement pavilion, 30 feet wide and 60 feet long, was built at a cost of \$700. The interior of the pavilion is one room with a floor suitable for dancing.

The pavilion is a common meeting place for the colonists. The Grangers' Society, a chartered organization of Italian farmers, holds its meetings in the pavilion. Mass meetings are held there, too, and it is the gathering point on festival days.

Seven families of Italians—coming from northern Italy—constituted the original colony. They settled twenty miles from Wilmington, and named their colony St. Helena in honor of the Italian queen.

The combination of land capable of high production and nearness to market contributed to the welfare of the colony. Carloads of strawberries were shipped, from one-half acre \$1800 worth of lettuce was marketed, and immense vineyards of Concord grapes brought rich returns to the Italians.

With the clustering of families of the same nationality into a colony, there came an awakening of the social spirit. Their inclination for play and recreation was quite as intense as had been their ambition to acquire a home. They found satisfying expression in the organization of a brass band. Approximately five hundred Italians are now happily and prosperously situated there.

Dick Pierce's son Richard was married, March 30, to Miss Helen James, daughter of Rev. D. Melancthon James of Newton, associate pastor of the Shawmut Congregational Church of Boston. Miss James and Mr. Pierce had planned to be married in June but, as the bridegroom is a member of the Coast Artillery Corps and expected to be called to active duty at any time, the date of the wedding was advanced.—Fred Newell is chairman of the Committee on Engineering Coöperation and Organization which was started in Buffalo in 1905, for the purpose of creating proper correlations in the solution of the many problems vitally affecting the practice of engineering. Newell is now in Washington connected with the Society for Government Research.

The members of '85 who were not at the annual class dinner, will learn with grief of the death of Mrs. Maud Richardson, wife of Bob Richardson, which occurred at their home in Kansas City on March 18.

Mrs. Richardson was apparently in perfect health up to within five minutes of the time of her death. The shock of her loss came without warning to Bob who was in New York at the time.

Mrs. Richardson shared her husband's popularity in Kansas City. She also shared his musical talents and tastes, and together they had done much to encourage and assist young people of musical ability and ambition.

Mrs. Richardson was active and prominent in charity and Christian Science church work and published a religious book which ran through many editions.

She leaves a daughter, Alice Kate, about ten years of age.

1886.

ARTHUR GRAHAM ROBBINS, Sec., Mass. Inst. Tech., Cambridge, Mass.

The Christian Science Monitor published the following item of interest, under date of January 28:

Harry E. Clifford, professor in the Massachusetts Institute of Technology, and a leading expert in the field of electrical construction and valuation, is attracting attention by his testimony, given in investigation of the affairs of the Edison Electric Illuminating Company, now under way by a state commission charged with responsibility for the management of such companies. Professor Clifford is a Lowell, Mass., boy, educated in the public schools of Boston, at the Massachusetts Institute of Technology, and at Harvard University, who, after teaching physics for awhile, under the auspices of Harvard and in connection with its astronomical observatory, joined the staff of the Institute of Technology as an assistant professor in theoretical physics. He became professor of theoretical electricity, and when, a few years ago, a working arrangement between the Lawrence Scientific School of Harvard and the Institute of Technology was worked out by Presidents Lowell and MacLaurin, he was one of the first men named to devote his entire time to high grade research work with the McKay funds that this consolidation is planned to make possible. Professor Clifford not only has been honored by election to leading organizations of electrical engineers, but he also has been elected a fellow of the American Academy of Arts and Sciences.

The *Boston Transcript* prints the following obituary of Otto B. Cole who died in Boston on June 5:

"Otto B. Cole, who died today in Boston, was born in Columbia County, N. Y., and received his early training in the local schools, later entering the United States Signal Service, studying at Fort Myer. His introduction to Boston was when, as Sergeant Cole, he was appointed to the charge of the weather office, then in the Equitable Building, in the early eighties. For about five years he remained here in the weather service and with his close relations with Blue Hill Observatory, which was established in 1885, and with A. L. Rotch, its owner, he was able to experiment with means for improving the service. At that time, all the local predictions were made in the Washington office, but, with an outfit provided by Mr. Rotch, Mr. Cole was able to try out the technique of local predictions and these have been adopted in

offices throughout the country. Mr. Cole also made and posted in the Boston Board of Trade a system of local forecasts for the benefit of shippers of perishable freight, a system now represented by local reports in all parts of the country.

"In 1887 Mr. Cole was transferred to Portland, and shortly thereafter resigned from the Signal Service to enter business. In his last years in the service he had taken special courses at the Massachusetts Institute of Technology and was affiliated with the class of 1886. In the business world Mr. Cole carried through some notable operations and at various times was connected with different business enterprises."

The secretary has just learned of the death of Frank L. Worthy, who died on September 23. Since leaving the Institute, Worthy has been identified with the hotel in Springfield, Mass., that bears his name.

1887.

EDWARD G. THOMAS, *Sec.*, 360 Rockingham Street, Toledo, Ohio

Southar has written me an interesting note regarding his present duty in assisting the building up of our very newest defensive arm, the aeroplane. It is interesting to note that he has been intimately concerned in the development of three of the most recent forms of transportation, the bicycle, the automobile and the flying machine. He says:

I am working for Uncle Sam; my official title is consulting engineer, office of chief signal officer. My duties are with the aviation section and especially related to aviation engines, materials, transportation equipment, organization of a civilian inspection force, and civilian corps of engineers and business men to guide the new industry. I went at this last May most unexpectedly and find my duties closely parallel those during the developments of the motor car industry. The problems are curiously similar. My home station is here in Washington but I am kept moving throughout the centers of aviation industry much of the time. I find the army organization to be a wonderful one and my associates extremely desirable ones—just the ones that make business relations most agreeable. Aviation is moving forward very fast and all manufacturers of material are busy to the limit.

Mulliken has completed and issued three of the four volumes which will form his "Method for the Identification of Pure Organic Compounds" which will be one of the most comprehensive and systematic works relating to organic chemistry which has appeared. The volume just published is of peculiar interest at this time as it deals with the identification of compounds of nitrogen, with carbon, hydrogen and oxygen, thus covering the high explosives and a large part of the dyestuffs.

E. G. Thomas has become attached to the forces of the Toledo Scale Company at Toledo, Ohio, as experimental engineer. His address for mail is now 360 Rockingham street, Toledo, Ohio.

1888.

WILLIAM G. SNOW, *Sec.*, 24 Milk Street, Boston, Mass.

Fred J. Wood has been commissioned as a major of engineers in the Reserve Officers' Corps of the army.—B. S. Redd is now located at Bridgeport, Conn., as consulting engineer and manufacturer's representative.—The *Boston News Bureau* of March 31 has the following about our classmate, Charles A. Stone, taken from an article by B. C. Forbes in the *April American Magazine*:

Before stepping into the presidency of American International Corporation, Stone was little known to the public at large. But big business knew him as a man of tremendous force, compelling personality, keen judgment, financial sense and technical knowledge. The record of Stone & Webster was one of the epics of American business.

Starting as electrical engineers on a small scale, Charles A. Stone and Edwin S. Webster, fellow graduates from Technology in '88, had become builders and managers of 30 public utility enterprises, employing 20,000 men and earning \$27,000,000 a year. Quietly they had bought up privileges until they became one of the two or three largest owners of developed commercial water power. As physicians for ailing enterprises, they had never lost a case.

In his new job Stone struck boldly. Colossal construction work in Russia, 1100 miles of railroad in China, a multiplicity of enterprises in South America, were among the first definite plans of his organization. It has become part owner of International Mercantile Marine Co., has obtained control of Pacific Mail, and gained a strong interest in United Fruit.

The selection of Mr. Stone was influenced largely by the ability he had shown in picking and training young men. His main reason for accepting was that he would be able to develop more men than ever before. Developing men was a gospel to him. Already he has sent dozens to foreign fields and hundreds are in training. Within a few years he will have placed thousands in important positions all over the world.

When Stone & Webster was formed in 1889 its quarters consisted of one room and an anteroom. In the cramped anteroom was housed the staff—one smart office boy who used to fool visitors into thinking the firm opulent enough to afford a typewriter, his ruse being to "click, click," the lock of the safe door when any one was calling.

The firm had really been formed in college. The two future partners had become such chums that students were calling them "Stone and Webster." They decided to become electrical engineers.

"Why electrical engineering?" I asked Mr. Stone.

"Electricity was new in industry then," he replied. "But we believed it was bound to become a tremendous power. We were members of the first electrical engineering classes ever graduated in America, and when we hung up our shingle were probably the first strictly electrical engineering firm."

In the few months before offices were opened in Boston young Stone held a job with Electrical Welding Co. of Lynn, at \$5.80 a week. And he lived within his income.

After a brief tutelage under Elihu Thomson, chief engineer of General Electric, he joined hands with Webster, who had been getting an insight into finance as clerk in the banking firm of which his father was a member.

Jobs came hard at first. The president of Technology helped tremendously by referring to them inquiries received concerning electrical matters. The two youths had the good sense to engage the Institute's two most prominent electrical professors as consulting engineers.

Their first big job was to build an electric transmission plant of 1000 horse power carrying the power 15 miles from Lower Falls of Cumberland river to S. D. Warren & Co.'s paper mill at Westbrook, Me. This was considered one of the most daring

projects ever conceived. Stone & Webster had to devise necessary machinery, evolve novel tools, and blaze a new trail at every turn. They solved every problem, and finished the work well below original estimate of cost. Stone & Webster leaped into fame. Practical men began to consider electricity with more respect.

The panic of 1893 opened the door of opportunity. General Electric had to divest itself of all outside properties, including light and railway plants in 50 cities. A syndicate was formed to take over these and it engaged Stone & Webster to appraise properties and securities, with view to liquidating; also to do what Stone could to sell them.

One property, in Nashville, Tennessee, was found unmarketable. But Stone saw unappreciated possibilities. The bankers' syndicate was willing to dispose of it, with its \$500,000 stock, for \$60,000. But the total capital Stone & Webster could muster was \$20,000. No banker in Boston or New York could be induced to join in the venture or lend the balance. Stone knew no rest until he prevailed upon a Chicago financier, J. D. Harvey, to look over the proposition. Mr. Harvey could not share his enthusiasm; but he agreed to lend the \$40,000.

Within one year the profits enabled the purchasers to pay off the \$40,000 loan, and in less than five years they sold the plant for \$500,000.

"That half million looked the biggest thing I had ever seen in my life—and I have never since seen anything quite so big," declared Stone.

This brought Stone & Webster into management of public utilities. They formed a "Management Association," and began acquiring, managing and developing street railways, light plants and power stations. They invaded Seattle with a \$4,000,000 public service system 18 years ago, and have since spent \$50,000,000 in similar enterprises on Pacific coast alone. Most of their work has been executed on a commission basis; Stone & Webster, as supervising engineers, have been paid a percentage of total cost. This implies deep confidence, for the greater the cost of the work, the larger the commission.

"From our first large contract, which we finished below estimated cost," said Mr. Stone, "we have drummed into every member of our organization that our interest is identical with that of the people employing us, and the only true trade is one which benefits both sides. Our men know they must be as careful, economical and anxious to achieve results as if the work were being done at our expense.

"We teach every young man in our employ that he must make it easy for us to promote him, and the best way he can do this is by fitting some one to fill his own job. Every man in our organization must train an alternate. Thus promotions cannot disrupt our organization.

"We believe in large salaries and pay many. We also have a profit-sharing plan which has charged the men with ambitions and paid them well. Nine-tenths of employers make the mistake of looking upon men as cogs, and expecting those cogs to remain in the spot in which placed year after year until worn out. By using a man permanently in exactly the same spot they imagine they are receiving the maximum efficiency.

"We believe in promotions. We want every man to feel that we want him to advance to the limit of his capacity, and where an unusually able man is offered a bigger opportunity outside, we gladly urge him to take it."

W. Cameron Forbes stepped from the Stone & Webster organization, where he began as a youth, to governorship of the Philippine Islands. When Westinghouse Electric needed a chairman to pilot it through troubled waters, Guy E. Tripp, another Stone & Webster employee, was selected. Boston and New York have plucked many bankers from the same field.

"We begin by picking the most promising material. We draw a good many from Technology," said Mr. Stone. "We select men with quick perception, business intellect, plenty of energy, and a proper amount of ambition. We impress on each that he cannot hope success for himself or the organization unless he adapts himself to team-play.

"This whole plan works for loyalty and a right spirit. Those of us at the top feel indebted to heads of departments and other responsible officers for so organizing each job that they are free to tackle some new and more important work. We are branching out all the time, and must have the ablest men on the firing line,

of initiative and powers of organization, who can take hold of a new enterprise, overcome all initial difficulties and set it on its feet. Once these men have organized and systematized a new enterprise, whether an electric lighting plant, a street railway or a power plant, men of somewhat lesser caliber can run it, thus releasing the fellows at the top.

"Our system has other advantages: When a man is ill or needs a vacation, an alternate is always on hand. If we treated men as cogs it would inevitably happen, sooner or later, that the whole thing would collapse like Oliver Wendell Holmes's one-horse shay.

"We keep in close touch with all our men. We are always eagerly watching for talent. The officers of our various plants regularly send reports covering the showing by men under them. We have a high-salaried superintendent of employment, whose sole duty is to travel around to size up likely workers. He passes on most promotions. This man has a large heart, broad sympathies, and understands human nature. He takes a fatherly interest in helping the right kind of fellows up the ladder.

"We train practically all our own men. We have a regular training plant in Porto Rico, where young fellows, mostly fresh from college, start in the car pit, greasing cars. They go through every branch, not in theory, but in practice, as we not only supply the town (Ponce) electric light and power, but also run the electric car system. In addition we have installed a commercial department for sale of coal and other materials so as to give the men a well-rounded schooling.

"I was thinking of the son of a very prominent and influential family. His parents wanted us to train him. At college he had been cutting a wide swath and when I talked with him he let me know that a presidency, or at least a general managership, was about his strength as a starter. I told him the best I could do would be to send him to Ponce as a car greaser, and it would be up to him how long he remained at the bottom. He surprised me by immediately getting off his high horse and saying he was ready to start greasing right away and, by the way, he stuck to his job with the best of them, and in three years, after serving as conductor, motor-man, superintendent of one department, and, finally, manager, got an important position with a very large traction company.

"We take pains to discover what a man is best fitted for. If he does not make much of a success at one kind of work, we give him a chance at something else."

I asked Mr. Stone how he came to establish his novel system of having each man organize himself into a better job.

"It came about in a funny way," he replied. "A responsible and experienced manager many years ago applied to us for a position. He explained that he had organized himself out of his last job. He had familiarized the officer next to him with his own work and had taught everybody along the line to do the same thing. During a period of depression the president complimented him on the excellent way he had systematized things, and added that he had the machine running so nicely that they could now save his salary.

"I immediately engaged that man, and we began instituting the same system in our organization; only, instead of organizing themselves out of jobs, our men organize themselves into better ones. We profit thereby, as well as they. If there is any better method to conduct a business I have yet to discover it."

1889.

WALTER H. KILHAM, *Sec.*, 9 Park Street, Boston, Mass.

John S. Hyde died in St. Augustine, Florida, March 17. The Boston *Transcript* contained the following notice:

"Hon. John S. Hyde, since 1905 president and sole owner of the Bath Iron Works, died suddenly at the Hotel Alcazar, St. Augustine, Fla., where he was spending the winter. He was fifty years of age. His company, the Bath Iron Works, built many government warships.

"Mr. Hyde was a native of Bath, a son of the late General Thomas Worcester Hyde, who established the Bath Iron Works. He was graduated from the Massachusetts Institute of Technology in 1889 and studied marine architecture in Glasgow University. He then went into his father's shops, learning the machinist's trade and draughting, and was soon promoted to be superintendent of engineering.

"He served in both branches of the city government in Bath and was mayor in 1909 and 1910, having been reelected without Democratic opposition. He also served in both branches of the legislature and at one time was on the staff of General John Marshall Brown as aide-de-camp with rank of captain, First Brigade, Maine National Guard. He was a member of the Army and Navy Club of Washington, the Cumberland Club of Portland, the American Society of Mechanical Engineers, American Society of Naval Architects and Marine Engineers, American Society of Naval Engineers, Military Order of the Loyal Legion, the Sagadahoc, Colonial and Kennebec Yacht clubs of Bath.

"Mr. Hyde was a member of Grace Episcopal Church in his home city, a director of the Maine Central Railroad, a vice-president of the Maine Automobile Association, a director of the First National Bank, a trustee of the Bath Savings Institution, a trustee of the Patten Free Library and president of the Bath City Hospital.

"He leaves his wife, formerly Miss Ernestine Shannon of Bath, a son, John Holmes Hyde, who, with his wife, has just reached St. Augustine for a brief visit; two brothers, Hon. Edward W. Hyde of Bath, the former president of the Iron Works, and Arthur S. Hyde of New York, a leading church organist of the country who was for many years organist at Emmanuel Church, Boston, before going to St. Bartholomew's in New York. There is also a surviving sister, Mrs. John C. Phillips of Wenham, who before her marriage was Miss Eleanor Hyde of Boston."

We publish also an extract from the *Bath Times* of March 19:

"While the Bath Iron Works under General Hyde were firmly established and grew into a plant of great magnitude under the management of himself, his two sons and their remarkably efficient staff, it has grown by leaps and bounds under the ownership of this favorite son of Bath into one of the most successful and best constructed and equipped shipbuilding plants in America. The present construction of buildings is completely fireproof and therein the most efficient and latest designed machinery and tools are installed. From the large wooden solitary building that was taken over from the New England Company by General Hyde, the plant has now nearly 40 buildings in which the various parts of the shipbuilding work are done.

"The accomplishments of the Bath Iron Works from their first contract in 1889 of the Cottage City and the building for the

"Meteor" the first triple expansion engine built on the American East coast and in 1890 the construction of the gunboats "Machias" and "Castine," the first steel vessels built by this plant for the navy which hold the record for greatest excess speed and in 1894 the "City of Lowell," in her time the fastest steamer on Long Island Sound, through the periods of construction of the gunboats "Newport" and "Vicksburg" and America's first 30-knot destroyer, "Dahlgren"; through the shipbuilding depressions and great fire in the yard which necessitated rebuilding the plant; during the period of building here of lightships, lighthouse tenders, cargo steamers, steam yachts and sailing vessels which followed in rapid succession, the plant built the largest American steam yacht, the fastest steam-going steel yacht, the first composite electric-lighted light vessel, the first American cargo steamship, the first composite vessel of the new U. S. Navy, the first American sheathed vessel, the only sailing vessel of the U. S. Navy, the fastest American torpedo boat, the speedy battleship "Georgia," the fast scout cruiser "Chester" and destroyers that invariably have exceeded contract requirements of the Naval Bureau. The palatial yachts constructed here, the "Eleanor," "The Perigrine," "Aphrodite," "Virginia," "Winchester," for speed and comfort and luxury combined have carried the name and fame of the B. I. W. all over the globe.

"The hobby of the late president, John S. Hyde, has been to produce fast ships, especially torpedo boat destroyers. The plant has always maintained a thoroughness in detail ideal. No work has been slighted, the standard being the best work possible in every detail. This has been possible of attainment because of the harmony of the machine, run with clockwork regularity that is due largely to the ideals of the Hyde family and especially to the careful supervision of President John S. Hyde. The success of the plant which has contributed in a great degree to the prosperity of the city has been a great factor in this accomplishment of high grade construction. It has been written: 'Labor troubles are unknown in this plant because the man at the head of it has worked not alone for his own interests or that of his associates, but for the interests of every employee, of the city and of the state.' Many of the contracts taken by this plant under the presidency of John S. Hyde were taken with a knowledge of resulting loss. During dull times in the shipbuilding business the contracts were thus taken to keep the men at work and to prevent Bath experiencing hard times.

"Naturally honors have come to a man of such a character, a man of generous mind, kind of heart, warm sympathies, liberality of hand and purse to help all in need of aid and one who never gave a promise that he failed to keep; a man of business ability, executive efficiency, strong courage and keen foresight. John S. Hyde was, in succession to General Hyde, a director of the M. C.

R. R.; a director of the First National Bank and trustee of the Bath Savings Institution; he served in both boards of the city government and was mayor 1909-10; he represented Bath in the legislature of 1899-1901 in the House, and in the Senate was a member for Sagadahoc County 1903-04. During several campaigns he was sought by leaders of the Republican party to be its candidate for governor, but this honor he declined, because he decided that his duty was to his business interests with which political activity was certain to conflict. President Hyde was a member of the military order of the Loyal Legion, American Society of Naval Engineers, Society of Naval Architects and Marine Engineers, the Cumberland Club of Portland, Army and Navy Club and Metropolitan Club of Washington, Sagadahoc and Colonial clubs of Bath and was an active member and official of Grace Episcopal Church of this city. He was a member of the Phi Rho Society while at the high school as a boy and a benefactor of the local branch of the Sons of Veterans, the Gen. T. W. Hyde camp.

"President John S. Hyde's success in life was partially due to the democracy of his character and the amiability of his personality which attracted men to him and was productive of loyalty among his business associates and employees alike. No man was denied easy access to him; he was fair-minded and ready to make just decisions in grievances, real or fancied, and with a heart full of sympathy for all cases of need that came to his attention. His courtesy was inherited and natural; he was rarely ruffled and always an optimist with brave heart and broad mind ready to tackle the largest propositions, fully confident of his ability to bring his undertakings through to success. He had a wonderful memory for details. Visitors to the yard have sometimes found him on one of the steamships or destroyers and have been amazed over his mastery of the smallest details of the complex machinery and equipments and his patience in explanations of construction and their uses. He was truly a master builder; he was able thus to know personally when things were right in the yard.

"As a boy and man, President Hyde was artistic, inheriting this trait from the General, and musical, an inheritance from his mother who was an accomplished musician herself, as was her sister, Mrs. Eames, the mother of Mme. Eames de Gogorza. John S. Hyde when a young man took part in many of the local musical entertainments of former days.

"As a citizen John S. Hyde was loyal to every interest of Bath. He was willing with large sums and personal influence to help anything that promised good for his native city. He was the first citizen of Bath to come forward with the proposition to increase his taxes here knowing that they were needed. Whenever a subscription was desired, he was among the first to be approached and he stood always ready and glad to aid. Bowdoin College in its General Thomas Worcester Hyde Athletic building is a large

beneficiary from John S. Hyde's generosity, a memorial to his father. To provide work when labor was in need in this city was a large factor in his undertaking the extension of the Elmhurst estate into the Five Mile Swamp, reclaiming the wild land and converting the forest into the great park with its miles of roads on which on Sunset Rock he built his magnificent new home. In planning for a great stock farm on this estate he had in view the improvement of farm cattle stock in Sagadahoc County and this section of Maine. Even at this writing three blooded horses are coming in pursuit of this plan from the West. During his search for health and winter sojourn in Florida, especially since his health and strength seemed to be returning, his mind turned northward to this beautiful home on the Kennebec with great longing; he expressed the hope of soon living in his own house; he was desirous of taking up the business of the Bath Iron Works again and of accomplishing his Elmhurst plans.

"From boyhood onward through his life, President Hyde has been fond of outdoor life and sports and a sincere lover of nature. Thus he for years owned and enjoyed from time to time as his duties permitted his summer home, Peskebogat Lodge, Lobster Lake, Moosehead. Thus he has enjoyed automobile trips, boating and fishing and at one time had a plan under consideration of building and owning the fastest steam yacht on the coast. Thus also he planned his stock and dairy farm, his gardens and farm. He was a manly man and so was fond of the forests, the sea and all of the great out doors.

"In the amazing brilliance of his career and its wonderful success, the beauty of the man's character was revealed in the simplicity of his life and treatment of citizens among whom he had grown and had achieved. In the almost Aladdin's lamp attainment of all that an ambitious man can desire, John S. Hyde remained the same lovable true gentleman, courteous to all, friendly with all. Riches and honors, nation-wide esteem, accomplishment of remarkable things left his noble character shining with its honesty of purpose unscarred with contact with the world. There was no taint or blemish of pride, no arrogance that might have been excused, no selfishness in development, unfailing sympathy and ready generosity for those less fortunate in their lives. John S. Hyde was one of the state's greatest characters and after accomplishing a magnificent record and leaving monuments both on land and sea to show for his having lived, he passes from us mourned by all, an example and an inspiration for all."

With Robert H. Fernald, Orrok has just gotten out a new book on "Engineering and Power Plants," published by McGraw-Hill Book Company, Inc. It is doubtful if two engineers could be found whose knowledge of the problems of the engineering of power plants and the teaching of the subject to engineering students would better fit them for the coöperation which resulted in this

work. It has a true power-plant flavor and one feels sure the authors have had to solve many of the problems in practice rather than manufacture them for a text-book. Orrok also contributed to the annual meeting of the American Society of Mechanical Engineers in December last a paper on "The Proportioning of Surface Condensers."

The annual reunion was held at the University Club, Boston, on March 13, the following being present: Basford, Bliss, E. L. Brown, Cutter, Davis, E. V. French, Gilbert, Gleason, Hawkins, Hobbs, Howard, Hunt, Kilham, Laws, Lewis, Loring, Orrok, Rollins, Russell, W. L. Smith, Spaulding, Thurber, Underhill, Wales, Whiting and Williston. The only business was the appointment of a delegate to the Convention on Technology Preparedness, which honor was awarded to Orrok without debate. At the request of the president, Hunt described the sensation of taking the leading rôle of payor in a highway robbery and told of the efficient methods of the police. A sigh of relief went around when it was learned that the class funds had at no time been in danger during the hold-up. Rollins capped this story with an account of his own experience in the opposite role of payee, which elicited great applause. Wales related the immortal story of Cap'n Sims, a narrative which loses nothing in repetition while his technique as a story-teller seems, if possible, to grow better each year. Laws described in an interesting manner the somewhat confused descent of the different departments into the new buildings of the Institute and told about the existing situation there. Most of us got the impression that we were glad we did not have to be around when the moving was going on. The president called for a report from the class members of the Alumni Council and Lieutenant Governor Bliss rose to the occasion and described his experiences as a new member of the Council. It is evident that '89 should have an additional representative who is a member of the Engineers Club in order to prevent a future recurrence of such a drouth as Bliss described. Bliss further described Tech affairs in Rhode Island and expressed his pleasure at being with the crowd, which sentiment was heartily reciprocated. Paul Hawkins wound up a very interesting evening with a discussion of the state of military preparedness of the country, the gist of his remarks being that there was'nt no such thing as long as Congress is in control. The evening was one of the pleasantest that the class has ever spent together.

1890.

GEORGE L. GILMORE, *Sec.*, Lexington, Mass.

You have all received the blank to fill out as to your past and present occupations and as to what your position would be to help the country in the present crisis. These blanks are all to be

indexed and cross-indexed and will be of great value if the alumni as a whole fill them out and return to the Institute promptly.

We trust that you have done your duty but if not, do it at once. Certainly if you are as slow on this as you are in writing to your class secretary the record of Ninety will be low. Now, fellows, wake up and show that Ninety is still on the map.

You may recall that you were requested to drop a line or two as to your views on the Reunion but to date not one of you has licked a stamp for that purpose. It is not too late and unless you are willing to let our records of that famous week be from the viewpoint of one vision only why get busy and tell us your own story.

Prof. H. M. Goodwin's address, as you probably knew, is now Cambridge and not Boston. You see he still keeps close to Tech.—F. C. Moody's home address is P. O. Box 96, Winchester, Mass.—C. W. Rice, who is secretary now of the United Engineering Society, that holds and administers the properties of the engineering societies of about two million dollars, is also a member of the Committee on Patriotism through Education of the National Security League.

He is also one for the councilors for students in the Montclair schools. At each of the high school assemblies one of the councilors will address the pupils and remain at the school for the day to answer questions.—F. H. Kendall, who has served on the Board of Selectmen of Belmont, Mass., for the past ten years, has declined to serve again as he feels that the time has come when he can properly retire. The following notice appeared in the local paper:

The decision of Francis H. Kendall not to serve longer on the Board of Selectmen comes as a big surprise and shock to the citizens throughout our town. For ten years he has rendered faithful service to those, who time after time made him one of the town fathers. Public service is exacting, and it is the willingness of men of Mr. Kendall's calibre to assume the duties of a public servant that has resulted in our town in the past standing among the well-governed towns of the Commonwealth. The name of Kendall in Belmont for a long span of years has been in the foreground of those in public life. We trust that Belmont may for a long time have the assistance of Mr. Kendall, who, when he retires from the Board, may be assured, he goes with the sincere thanks of every citizen from one end of the town to the other, for the numberless hours he has devoted to public welfare.

Also the following resolutions were passed at the town meeting:

Chairman of selectmen, George C. Flett, presented and read the following resolution as to Francis H. Kendall:

The inhabitants of the town of Belmont received with much regret the information that Mr. Francis H. Kendall declined to stand for reelection to the Board of Selectmen. Born and brought up in the town, educated in its public schools, of that sturdy stock for which New England has become famous, whose ancestors gave their services freely to the town with honor to themselves, he has himself lived in the town all his life with the exception of a short period while in the employ of a western railroad, and has served the town almost continuously in some capacity. He was a member of the Water Board for twelve years where his expert training as an engineer did pioneer work in laying the foundation for our present water system.

He likewise rendered valuable engineering service in connection with the location of the lines of the Boston Elevated Railway Company within the limits of the

town, as well as in the proceedings to abolish the grade crossing at Belmont station and in the proceedings now pending to abolish the crossings at Waverley. Further he has just completed ten years' service upon the Board of Selectmen but retains his position as chairman of the Warrant Committee.

These years have seen the transition of the town from a country village to a municipality nearly, if not quite, of sufficient size legally to become a city. He has met the many problems of engineering, public finance, and government, as well as the countless details which often constitute the real burden of public office, with that expert knowledge, broad vision, unfailing courtesy and quiet dignity, which point the way to wise municipal administration and good government. Therefore, be it

Resolved, that there be extended to Mr. Francis H. Kendall the most sincere appreciation and thanks of the inhabitants of the town of Belmont for his public services, with the hope that the town may have more years of his citizenship, and it is further

Resolved, that a copy of this resolution, under the seal of the town, be delivered to Mr. Francis H. Kendall by the Town Clerk.

The engagement of John C. R. de Bullet of Baltimore to Miss A. Isabel Walmsley is reported. Some of us wonder if this is news of our "Adonis" from whom no word has ever been received since leaving Tech.

At the reunion of the class of '86 Boston English High School on February 7, William Mossman was elected vice-president. Several of this class were in Ninety including a number of our freshman battalion officers.—Mr. J. Edgar Borden is now at 49 Orchard street, Portsmouth, N. H.—Charles O. Churchill is at 16 Woodrich terrace, Springfield, Mass.—Walter F. Cook's Boston address is 150 Boylston street. When hungry call on Walter.—William P. Flint is now in New York City at 40 West 36th street.—A. E. Norris's home is now 108 Naples road, Brookline, Mass.

The following report of the du Pont Powder companies shows a little of the responsibilities that have fallen on the shoulders of Pierre.

Two powder manufacturers in annual reports made public give stockholders a résumé of the most successful year in their history. The surplus of E. I. du Pont de Nemours & Company is placed at \$19,598,821. The net income of the Atlas Powder Company is placed at \$2,551,085.

President Pierre S. du Pont gives the following tabulation of the company's business:

Gross receipts	\$318,845,685
Net earnings and readjustments	82,107,693
Dividends paid	62,508,872
Surplus for year	\$19,598,821
Surplus January 1, 1916	8,968,217
Surplus December 31, 1916	28,567,038

A section of the report says:

"The warring nations are unwilling to place orders extending over a great length of time, and therefore our early contracts were closed at prices approximately 25 per cent. higher than the prices at which we sold powder abroad in competition with foreign manufacturers before the war. The company has been able to name prices for military powders to the United States government within the limit imposed by law, although prices of raw materials are much higher than before the war.

"Physical construction of the first new unit was commenced at the end of October 1914, and was finished and put in operation in March 1915. Additional

units were completed and put in operation monthly thereafter until April 1916, at which time our construction, involving an expenditure of about \$60,000,000, was completed.

"For 1917 the reduction in prices of military powders and the continued extension of large credits to the purchasers of these powders make it expedient to curtail extraordinary dividend disbursements. A dividend that it is believed can be continued uninterrupted after the war has been recommended. The present market value of the common stock seems warranted by the company's assets and prospective profits and is in line with the dividend recommendation."

Assets are placed at \$217,851,640, of which \$82,325,103 is in cash accounts receivable, materials and finished products; investment in short term securities, \$57,172,511; securities held for permanent investment, \$26,540,680; realty, not including plant real estate, \$504,023; permanent investment in manufacturing property, patents, \$51,309,640. Capitalization is \$119,744,582, of which \$60,813,590 in debenture stock has been issued, \$45,006 is held in reserve, \$58,854,200 in common stock has been issued and \$31,426 in common stock is held in reserve.

Sales of the Atlas Powder Company for 1916 amounted to \$20,652,916, or more than twice the total for 1915. Net income, applicable to common stock, is placed at \$2,551,085, equivalent to 51 per cent. on the shares. Earnings in 1915 were 325.8 per cent. on the same shares. During the last four years common dividends have totalled 44 per cent., of which 25 per cent. was paid in 1916, 11½ per cent. in 1915, 6 per cent. in 1914 and 1½ per cent. in 1913.

The balance sheet shows cash on hand of \$1,487,746 and working capital \$6,269,126. The property assets of its subsidiaries are \$10,210,608.

Both companies paid liberal bonuses to employees at the end of the year.

The following notice of Frank H. Martin's death appeared in the *Providence News*, date of February 3:

"Following an illness of less than a week, Frank H. Martin, well known Providence architect, succumbed at his home, 115 Bowen street, yesterday, at the age of 53 years. He was a member of the Martin & Hall Company. He was taken ill last Sunday but was not thought seriously ill until Thursday when his condition took a decided turn for the worse and he slowly sank until the end came.

"Frank H. Martin was born in Seekonk, March 9, 1863, the son of Sylvester G. and Susan P. Martin. He attended school there and later was graduated from the Massachusetts Institute of Technology and Lowell School of Design.

"He came to Providence in the '80s, and worked for Stone, Carpenter & Wilson, architects, until February 1, 1893, when, with George F. Hall, he formed the firm of Martin & Hall, with which he was identified up to the time of his death.

"Mr. Martin married Miss Annie W. Burgess of Lynn, Mass. She and one daughter, Maude Potter Martin, survive him.

"He was a member of the Providence Art Club, Architects' League of New York, Rhode Island Chapter, American Institute of Architects, Adelphoi Lodge of Masons and the Sons of the American Revolution.

"The funeral will be held at 12 noon next Monday at St. Stephens' Church, with burial at Swan Point."

George E. Hale is chairman of the National Research Council appointed by the President.—We regret to report the death of Hon. John S. Hyde at St. Augustine, Florida, March 17. He was

president of the Bath Iron Works, and was spending the winter at the Alcayar. He had served his city, having been mayor in 1909 and 1910; also in the legislature. He was a member of a number of clubs. He leaves a wife and one son. John will best be remembered by us as our quartermaster in our freshman battallion.

Your secretary has been at the Court Inn, Camden, S. C., during February and March resting up preparatory to writing up the records of the class for last June so do not think it is too late to help out with any further information. It will be welcome and he is willing to spare enough time from the golf course to read letters from all of you.

It was suggested at the alumni dinner that an occasional luncheon in Boston might be enjoyable. We shall put the date well ahead and if it does not suit just say so. We are agreeable to anything that pleases you. Monday, June 4, at 12.30 noon, there will be an informal luncheon of the class of Ninety at the Engineers Club, 2 Commonwealth avenue, Boston. As many as possible try and be present but kindly be so thoughtful as to write or telephone your secretary a few days in advance as he would like to know whether to provide for two or twenty and really does not wish to lunch alone. Now paste the date in your hat and do not fail to show up or we may never have another.

While in New York in February your secretary ran across Billy Creden at the Biltmore. It was the first time he had met Billy since 1890 but he is still the same old boy with the same genial smile.—Pierre S. du Pont and the officers of the du Pont Powder Company are starting an Aviation School at Wilmington, Del.—Albion, N. Y., now has a water works of the finest character. Much of the credit for this is due to Mayor Schuyler Hazard whose experience as an engineer showed the feasibility of using Otter Creek as a reservoir and thereby saving a long and expensive pumping from the Lake. The following account from the press gives one an idea of the undertaking.

A large share of credit for the new supply and reservoir is due to Mayor Schuyler Hazard, a civil engineer with an extensive experience in the vicinity of New York City, who located the site for the reservoir personally and has been successful in completing the work under the existing high cost of labor and material and keeping the cost within the amount of the appropriation, \$75,000 for the work and pipe line extensions in the village and two and one-half miles from the filter beds to the new reservoir. Several thousand dollars were spent by the village previous to that time in securing sites for test wells, drilling, etc., but to no successful end. When all prospective sites proved unsatisfactory, and residents advocated going to Lake Ontario, nine miles north of Albion for a water supply, from which source a continuous heavy expense for pumping up the long steep elevation would be necessary, Mayor Hazard solved the problem by locating the site of the reservoir on Otter creek. It is expected that the reservoir will be stocked with game fish which will not only purify the water but in time will provide excellent fishing.

At his suggestion as mayor on April 1 a letter was sent to all the churches in the city requesting the ringing of all the church bells

on the opening of the extraordinary session of Congress. Bells were rung for a period of ten minutes, the fire whistle was blown and all people were requested to display flags. Albion was literally ablaze with enthusiasm and patriotism, and flags flew everywhere, and as the noon hour approached crowds gathered on the street corners discussing the probable action of the coming congress.

Just at noon bedlam was indeed let loose. The church bells all pealed forth, the fire bell added its clang while the whistles blew loud and long to announce to the world that Albion at least was standing with the President and believed that no step backward should be taken in our attitude towards Germany.

In looking over the list of the "Sustaining Members" of the alumni that appeared in the January REVIEW we find that Ninety is represented by only eight men. Think it over, fellows, and see if more cannot send in their names to help along the good work of the alumni by a contribution of \$10 per year.

At a mass meeting held in Faneuil Hall, Boston, on April 1, to discuss "Forty-eight Hour Week for Women," under the auspices of the industrial department of the Boston Equal Suffrage Association for Good Government, W. Z. Ripley, professor of economics at Harvard University, presided.—Cyrus C. Babb is now located at Rhodiss, N. C.—H. S. Buffam's address is P. O. Box 772, Brattleboro, Vt.—Dr. George E. Hale's address is Mt. Wilson Solar Observatory, Pasadena, Cal. The following clipping is taken from a Boston paper under date of April 1:

The Astronomical Society of France has conferred on George Ellery Hale, the American astronomer, the Janssen medal for important astronomical discoveries.

Camille Flammarion, the noted French astronomer, on behalf of the society, today handed the medal to William Graves Sharp, the American ambassador, at the society's general meeting. Mr. Sharp has recently become a member of the society, having been proposed by M. Flammarion and seconded by President Poincaré. M. Flammarion said the council of the society desired to render homage to American science and to Mr. Hale's labor in solar physics.

This is the second time Mr. Hale has been honored with the Janssen medal. He received it in 1894.

Wallace E. MacGregor is now at Gelena, via Battle Mountain, Nev.—Robert T. Walker is at room 1124, Tremont Bldg., Boston, Mass.

The following clipping appeared in the Boston papers of April 6 in which we note that our classmate, Lieutenant John B. Blood, is on duty:

The 9th Deck Division of the Massachusetts Naval Militia got its orders to report about 8.15 this evening and the military call was sounded on the fire alarm. The orders were to report at Boston at the earliest possible moment. Lieut. John Balch Blood, in command of the company, stated that the company would start tomorrow morning. Some of the members were out of the city. Notice was sent to all of these and they are responding rapidly.

An hour previous to receiving the call, Lieutenant Blood, hearing that the summons was coming, had a preliminary call sounded on the fire alarm, and members

of the company began to assemble. The calls drew out a large number of residents, and the men of the command were cheered lustily as they arrived at the armory.

Under date of April 16 we received a censored card from Blood, from some unnamed location, stating that he was well and everything was going well with him.

1891.

F. A. WILSON, *Sec.*, Nahant, Mass.

It is with real sorrow and regret that we record the passing on of our friend and classmate Edward Cunningham, who died at his home in Westwood, Mass., on March 25, 1917.

As an undergraduate, and during those years following, before his health became impaired, he was unusually active in Technology affairs, serving for five years, from 1910 to 1915, as an alumni term member of the Corporation.

He was born in Chefoo, China, on August 14, 1869, and lived for several years in California, coming to Milton as a boy of thirteen. He attended the Roxbury Latin School, and the year before entering Tech spent a year at Hale's School in Boston. He entered the class of '91 and graduated in the course of chemical engineering.

He started business in the employ of Mr. Samuel Cabot, manufacturing chemist, October 1, 1891. He was married the following year to Edith Forbes Perkins of Burlington, Iowa, and lived in Milton, Mass. His only child is a son, Edward, born July 30, 1893, who is the class boy. After six years with Mr. Cabot, he became the manager of his business and continued in that position until October, 1901, when he was obliged to give up active work and go to California for his health. After several years spent in California, during which time he made two trips abroad, he returned to Massachusetts and became treasurer of Samuel Cabot Inc. In 1907 he was appointed manager of a public park with gymnasium and playgrounds in Milton. In 1911 he was obliged to retire from all activities on account of ill health, and since then has lived quietly on his farm at Westwood.

Although he was practically an invalid for twenty years he took great interest in Technology and public affairs and his lovable character made many and loyal friends. Those of us who knew him well, as a boy, classmate, friend and Christian gentleman, feel his loss keenly.

1892.

W. A. JOHNSTON, *Sec.*, Mass. Inst. of Technology, Cambridge, Mass.

C. H. CHASE, *Asst. Sec.*, Tufts College, Mass.

It is with regret that we have to announce the death of James McK. Ferriday on January 12, 1917, and who is well remembered



EDWARD CUNNINGHAM, '91

by many of his classmates. The heartiest sympathy is extended to Mrs. Ferriday. The following clipping appeared in a local paper under date of January 13:

"James McKeen Ferriday, for 30 years prominent in the social and business life of Colorado Springs, died last night in New York City where four days ago he was taken ill with pneumonia. Mrs. Ferriday was at his bedside when the end came. News of Mr. Ferriday's death came as a distinct shock to his wide circle of friends in the social and business world here, as when he left about two weeks ago for an extended eastern trip, his health was good. Shortly after arriving in New York City he became ill and was taken to a hospital and reports received up until last night indicated a good chance for recovery.

"Mrs. Ferriday's brother died several weeks ago in Chicago and Mr. and Mrs. Ferriday made the eastern trip partly to settle up the affairs of this estate. They had planned to visit in Richmond, Va., and spend some time in Florida before returning.

" 'Jimmy' Ferriday, as he was familiarly known here, was about 50 years old and more than half of his life he had spent in Colorado Springs. He was born in New York state and the funeral and interment will take place there at the family home.

"Fifteen years ago he married Mella E. Everhart. In the early days of the mining boom Mr. Ferriday was one of the most prominent brokers and his transactions totaled many thousands of dollars in profits. In late years he has been engaged in real estate and insurance business and the caring for the large number of properties Mrs. Ferriday owns in the city.

"Mr. Ferriday was prominent in the life of the Cheyenne Mountain Country Club, the El Paso Club, the Elks and the Golf Club. He also was a member of the Masonic fraternity. Mr. Ferriday was probably the father of golf in Colorado Springs. Many years ago he was an enthusiast for the game and was largely instrumental in the opening up of the nine-hole course at the Country Club. Later he was influential in the formation of the Town and Gown Club, which later became the Colorado Springs Golf Club. As a player, Mr. Ferriday ranked high and he took a prominent part in tournaments here.

"Mr. Ferriday was secretary of the first big carnival committee in Colorado Springs when George B. Tripp was chairman. He worked unceasingly for the success of that large venture and was always active in any proposition for the advancement of the community.

"For a number of years he has occupied the fine residence he owned at 25 Lake avenue, Broadmoor. Mr. and Mrs. Ferriday had no children."

The following clipping from the New York *Evening Journal* will prove interesting reading to '92 men. We all join in hearty congratulation to our classmate thus honored.

Elisha Lee, assistant general manager of the Pennsylvania Railroad and chairman of the National Conference Committee of the railroads, has been appointed general manager of the company, to take effect on Sunday, April 1. He succeeds the late S. C. Long.

From 1912 until 1914 as chairman of the conference committee of managers of the Eastern railroads he had personal charge of the negotiations with the different railroad labor organizations, and of the presentation of the roads' case in the arbitration of the wage demands made by the firemen, trainmen and conductors.

Mr. Lee, who is forty-six years old, was born in Chicago, reared in Trinidad, British West Indies, and was graduated from the Massachusetts Institute of Technology with the class of 1892. In the same year he entered the service of the Pennsylvania as a rodman. He became assistant supervisor in April, 1899, and two years later supervisor.

He was rapidly promoted from one important post to another until in 1911 he was made assistant to the general manager of the "lines east." In 1914 he left this position to become general superintendent of the Philadelphia, Baltimore & Washington Railroad, and two years later became assistant general manager of the Pennsylvania system.

W. Spencer Hutchinson, who has made an extensive mining trip through Australia, has returned to the U. S. A.—In a recent issue of the *Engineering News-Record* there appeared an abstract of the president's address by President Leonard Metcalf of the American Water-Works Association.

1894.

S. C. PRESCOTT, Sec., Mass. Inst. of Tech.

The most important scientific honor which has come to the class in recent years is undoubtedly the bestowal of the Rumford Medal upon C. G. Abbot of the Smithsonian Institute. This medal, which is given by the American Academy of Arts and Sciences of Boston, is presented for the most epoch-making work in physical sciences. Abbot received it as a result of the work which he has done for several years past on the sun and a study of the variation in radiation from the sun. An interesting incident of the presentation was the fact that he received the medal from the hands of Prof. C. R. Cross of the Institute, head of the department of physics, from which Abbot was graduated.—J. G. Estey of Brattleboro has been elected a director of the National Life Insurance Company of Montpelier, Vt. For several years Estey has been president of the Estey Organ Company of Brattleboro and a very prominent citizen in all the forward movements in his section of Vermont.

It may be a surprise to a majority of the class that Swanton is not only a highly successful agriculturalist but that he is also a poet. The secretary received through the kindness of Cheeney, a portion of the *Bath Daily Times* which contained a poem by Swanton, entitled "Farmer John's Cause for Thanksgiving." This poem is too long for reproduction at this place, but the secretary is saving it and it will become a portion of a '94 scrap-book and as such can be preserved for the future reading of any of the

classmates who would like to look it up. It is to be hoped that Swanton will continue to give free reign to the muses and will send some of his productions to periodicals having a wider circulation so that they may more frequently fall under the eyes of his classmates.—Claffin has become the vice-president of a new company, the Avery Chemical Company, incorporated under the laws of Massachusetts. This company has a plant in Tewkesbury, Mass., and has carried on a large and rapidly developing business during the past year and a half. The chief products are chemicals, especially lactic acid, ammonia and a great variety of salts such as are used by textile mills, tanneries and rubber companies. In case you want to buy stock in this company you had better consult Claffin himself.—'94 men must have noted with pride the fact that a larger number of men from this class are enrolled on the Alumni Committee for the Mobilization of Technology's Resources than from any other. Price is on the Executive Committee and other members are Bovey and Lovejoy.—Horatio N. Parker has recently been engaged in extension work for the Indiana University at Bloomington, Ind. He has lectured throughout the state on milk supply, water supply, general sanitation, etc., and in this way has covered a considerable portion of Indiana. Parker has recently finished his book on "City Milk Supply"—a five hundred page volume covering the whole subject of milk production and handling. This book is likely to be widely adopted as it is the most comprehensive treatise that has yet been produced dealing with this subject.—The secretary spent several weeks in investigation work in Central America during the winter, as has been his custom for some years past.

It is with great regret that we announce the death of S. F. Thomson who died in Brooklyn on January 30. Thomson was a native of Charleston, S. C., and entered the Institute with the class of '94. He took the course in civil engineering and after the third year at the Institute was engaged in practical work for some time, returning to complete his course with the class of '96. He will be remembered by all who knew him as a very quiet, modest fellow, but one who on acquaintance developed into a companion of splendid character and personality.

The following recent addresses have been received by the secretary: F. M. Mann, 202 Ridgewood Ave., Minneapolis.—W. L. Woollett, Ridge Road and Highland Place, Berkeley, Cal.—J. M. Ferguson has recently become an engineer on the Water Ways and Public Lands, State House, Boston.—G. W. Sherman, 75 Edgerton Road, Akron, O.

1896.

CHARLES E. LOCKE, *Sec.*, Mass. Inst. of Technology, Cambridge, Mass.

J. ARNOLD ROCKWELL, *Asst. Sec.*, 24 Garden Street, Cambridge, Mass.

The Cleveland reunion is now over and the '96 men who attended report a good time. This could not help but be the case when such good men as Merryweather, Litchfield, Peabody and the rest, had charge. The secretary was unable to attend in person, but was ably represented by Rockwell, who has turned in the following official comment of his trip:

'96 reports an interesting meeting of the Technology Clubs Associated at Cleveland, April 19, 20 and 21.

On the afternoon of April 18 a number of Technology graduates boarded the train at Trinity Place for Cleveland; one '96 representative being in the party. Delays en route brought us into Cleveland about noon, the following day, a tired and disheveled group of travelers, as at Buffalo and other stations there seemed to be a tendency to shake up the party to the limit of human endurance.

On arrival we picked up taxicabs and started for the Statler Hotel, the headquarters for guests attending this reunion. The writer was welcomed by Marble and Merryweather at the hotel and after completing the routine of registration the rest of the afternoon was spent in quiet reminiscences and in discussion of the questions of the hour.

The first get-together of the reunion was at the University Club Smoker where the "Grand Hoola Loola" took place. Incidentally the entertainment, such as dancing and singing, was offered by representatives from the Goodyear Tire Company in which our classmate Litchfield is such an active worker. A description of the dinner and the evening, no doubt, will appear in the full report of the field secretary's impressions of the three days' sojourn in Cleveland.

Of special interest to our class in this "Hoola Loola" orgy is the fact that eleven of our classmates sat at table and fully enjoyed the entertainment and hospitality of our hosts. They included C. E. Stamp, F. R. Peabody, George E. Merryweather, L. C. Marble, Conrad H. Young, A. D. Hatfield, George W. Bowes, Wm. H. Lambirth, P. W. Litchfield, Max Hellman, and J. A. Rockwell. It is hardly necessary to add that we all returned to our headquarters in excellent spirits but also in excellent condition.

Friday (Akron day) found the entire party headed for this great rubber section. We were transferred from Cleveland to Akron in handsome electric cars, each of the three large companies (Goodyear, Goodrich and Firestone) having an equal number of visitors who had designated the night before which factory they

preferred to inspect. It was with some difficulty that the writer was able to determine which factory to visit, as at both the Goodrich and Firestone we have graduates of our class in prominent official positions. He finally picked the Firestone and came under Peabody's personal wing as did George Merryweather, and what we don't know about the manufacture of rubber tires is not worthy of consideration. Following an excellent lunch at the Firestone Company's "social center," we took automobiles to Barbourtown, where we inspected the great Anna Dean farm, a truly remarkable estate. Full of the inspiration which an establishment of this magnitude impresses one with, we were then scurried by the same automobiles to President Seiberling's estate (Goodyear Company) where we were given a most hospitable welcome by Mr. Seiberling and where we inspected this most beautiful and artistic "English Castle." By the time we returned to our electric cars a thirst such as only a few of us appreciate, called the squad to the flowing bowl and, refreshed, we then returned to Cleveland. George and I hung together pretty closely, and after a bath at the Athletic Club and an excellent dinner, we attended the pictures, taken at the last reunion, shown for the first time to those graduates who were so unfortunate as to miss the great events of last year. The bed was a pretty good place for all of us that night, as we had spent a most strenuous day.

Saturday, our last day, offered many trips for the stranger in Cleveland to choose from; all of which were most instructive in nature. I visited the glass works of the American Incandescent Company (this is not the exact title) where splendid laboratories are making possible the perfecting and improvement in the incandescent illuminating systems. After lunch we were returned in private autos to the Statler, where the afternoon session followed and later the big banquet, a description of which will be found in the next number of the REVIEW.

'96 had a good showing at the banquet, practically the same fellows who enjoyed the "Hoola Loola," with Litchfield sitting at the speaker's table very much in evidence and a worthy son of '96. I want to say here that George Merryweather was a member of every committee that accomplished things. His modesty would prevent him from making the barest reference to his part in the success of the reunion, but I wish to speak for him and assure the class that we have reason to feel duly proud of our representatives in and around Cleveland and especially to the valuable part played by George in the carrying out of the Cleveland meeting. It will long be remembered as an affair where hospitality and good fellowship abounded.

Leaving the banquet, in perfectly good condition, and with that comradeship which is always found in '96, I returned to the midnight train, happy but weary, glad to have been there and regret-

ting that more of our New England fellows could not have enjoyed with me this splendid outing.

The list of men attending as supplied by Rockwell corresponds to the official registration as far as the men go; but there were also officially registered, Mrs. Hellman, Mrs. Merryweather, Mrs. Peabody and Mrs. Stamp.

In sending out the '96 notice for the Cleveland reunion, the secretary announced an assessment, No. 5, of \$1.00. A great many men have responded to the call, but to those who have not, the secretary would like to remind them that the class treasury is never very full and that he will be glad to receive the dollar which they have neglected to send. Incidentally, in sending their dues, a number of men reported items of interest.—Joe Knight has removed his old office from 84 State street to room 720, Tremont building, 73 Tremont street, Boston, Mass.—Harry Brown is on his feet again and able to write as follows:

I seem to be getting along and it is about time that I should, as I was taken ill the middle of March, 1916,—in fact, I went upstairs St. Patrick's Day and came down again on Labor Day. From which you will note that my early patriotic instructions under Colonel Hawthorne well continue. Time or space will not allow me to describe the various illnesses from which I suffered during that period. I should be glad to rehearse this tale of woe sometime but will now say that if I missed any known American disease it was entirely inadvertent on my part and I should be glad to correct the defect on notification of the class to that effect.

Francis M. Miller had to give up his residence in Pennsylvania on account of his health, and has for some time been practicing his profession of architecture in De Land, Florida. He has apparently benefited by the change and reports a good field for architects in the South.—Jim Haste has been recuperating at Atlantic City.—F. H. Walker has opened an office at 226 Columbia avenue, Philadelphia, Pa. This will be his headquarters although his work as consulting specialist in banking economics keeps him moving around the country a good bit. He still retains his home address at 98 Winthrop street, Taunton, Mass.—Myron L. Fuller, managing geologist of the Associated Geological Engineers, is conducting exploration work in West Virginia.

Mail has been returned from Floyd Frazier and Charles D. Trumbull. The secretary will be glad to receive any clue as to their whereabouts.

The war has interested some of the '96 men. Undoubtedly many of them are doing work of which the secretary knows nothing and will be glad to hear. Colonel Butler Ames is in charge of the Massachusetts Home Guard.—Dr. George K. Burgess, of the Federal Bureau of Standards, sailed with a party of American scientists who were sent to Europe to coöperate on war problems with the scientists of France and Great Britain. Burgess' work will be in the line of metals suitable for guns and rigid dirigibles. These scientists are sent jointly by the Advisory Commission

of the National Defense and the National Research Council and are accredited to the American Embassies in London and Paris and will develop their activities in both England and France, at their own discretion.

Lucius Tyler, with his characteristic enterprise, has foreseen the demand for flags on autos and has put on the market a very simple and neat form of flag holder, which can be readily attached anywhere on the machine, even on the mortgage, and is equally applicable to a Ford or a Fiat, a Saxon or a Stutz.

The secretary regrets to advise the class of the death of Samuel F. Thomson, which occurred on January 30, 1917.

The men who attended the Saybrook reunion will feel a great loss in the burning of the Hartford Yacht Club, which was reported in the newspapers on May 19. The large hotel called Fenwick Hall, which had been idle for some time, was being torn down and in some unaccountable way caught fire. A high wind carried sparks to the Yacht Club which was also burned. We had hoped to hold our twenty-fifth anniversary at this spot in 1921 as it seemed an ideal place and it will be hard to find its equal.

The following address changes have been received: Henry D. Barto, Manlius, N. Y.—Miss Mary E. Dann, Hempstead, Nassau County, N. Y.—Perry B. Howard, 142 Berkeley St., Boston, Mass.—Prof. Walter H. James, Box 222, Portsmouth, N. H.—Theodore I. Jones, 624A Third St., Brooklyn, N. Y.—Walter S. Leland, 67 Second St., San Francisco, Calif.—John E. Lonngren, Hotel Woodlawn, Woodlawn, Pa.—Edward A. McGonigle, Detroit Edison Co., Detroit, Mich.—Francis M. Miller, P. O. Box 201, De Land, Fla.—J. Porter Palmer, 44 Bartlett Ave., Arlington, Mass.—Rev. Welles M. Partridge, 30 Academy St., South Braintree, Mass.—W. L. Root, 46 Oxford St., Pittsfield, Mass.—Albert F. Ruckgaber, 120 Liberty St., New York, N. Y.—Miss Arield D. Savage, 1557 Blue Hill Ave., Mattapan, Mass.—Mortimer A. Sears, Field Service, General Land Office, Washington, D. C.—Alfred V. Shaw, Box 232, Bridgeville, Pa.—Charles H. Stone, Detroit City Gas Co., Detroit, Mich.—Geo. E. Stratton, Malta, Mont.—Ralph S. Whiting, 908 Galt Ave., Edge Station, Chicago, Ill.—John H. Willis, 1615 Euclid Ave., Berkeley, Calif.

1897.

JOHN A. COLLINS, JR., *Sec.*, 67 Thorndyke Street, Lawrence, Mass.

It appears that some of the men are criticising the '97 column in the REVIEW because of the scarcity of items therein about the members of the class. Now here is an instance where coöperation is absolutely necessary. We might express ourselves as did the editor of the *Bingville Bugle* under similar criticism:

How can you expect to get your name in print unless you do something notorious? Steal somebody's horse, knock your neighbor down or take too much hard cider, and we shall be but too glad to chronicle the same.

Only, that is not all; since the territory covered by the REVIEW is slightly larger than Bingville, we might not hear promptly if you performed any of the above note-worthy acts. You must send us the full particulars, including the police court news clippings in order that we give you full credit.

P. E. Blood, I, has notified the secretary that his present business address is at Castleton, New York, care of New York Central Railroad.—The secretary has received a copy of the January number of the magazine *The American City* in which is a finely illustrated article by Atwood, I, entitled "The Amphitheatre, Theatre, and Stadium, Ancient and Modern." Atwood is a consulting engineer in New Haven, Conn., and specializes in concrete construction.

1898.

A. A. BLANCHARD, *Sec.*, Mass. Inst. of Tech., Cambridge, Mass.

We received a letter from W. W. Stevens in China that was of such general interest to all Tech men that it will be found in another section of the REVIEW.

We note in a prospectus of the opening of the new chemical laboratory building of the University of Cincinnati that Tietig and Lee (both '98) were the architects.—A. Loring Swasey has succeeded N. G. Herreshoff as active superintendent of the Herreshoff Ship Yard and plans extensive developments there.

An announcement has just been received from Hollis Godfrey, '98, president of the Technology Clubs Associated, of the organization of a Washington department of the association. V. R. Lansingh, '98, is chairman of this department and L. D. Gardner, '98, is secretary. The object of this department is to centralize Technology's efforts to serve the nation, as will be noted in the circular which was sent to all the alumni. It will be remembered that Godfrey is chairman of the Council of National Defense appointed by the President, and it is thus evident how closely the new department of the Technology Clubs Associated can coöperate with the National Council.

The class suffered the loss of two of its members in February:

On February 6, Samuel W. Stillings, aged 41, passed away at his home, 205 Saint Botolph street, Boston.

On February 10, Dr. Heyward Scudder, Harvard, '91, M. I. T. V, '98, died at the Hotel Lenox, Boston, from heart failure caused by the excitement due to the serious fire of that date at the hotel.

1899.

W. MALCOLM CORSE, *Sec.*, 106 Morris Avenue, Buffalo, N. Y.
BENJ. S. HINCKLEY, *Asst. Sec.*, North Station, Boston, Mass.

A welcome letter was received recently by the secretary from A. R. Moody, who is in Rowley, Mass. It has been two years

since Moody wrote us before, and his health which was not good at that time has, he states, much improved, and he regrets that he has nothing of special interest to add to the class news.—Thomas P. Rowley writes:

I don't think I have any views on your theme "Technology's Duty to the National Government." Let the government alone say I and keep out of sight. I am afraid if Tech interferes with the government, Washington will become aware of Tech and since the government is going into ownership in all kinds, they may end by absorbing the Institute.

Charles Watrous sends in a message as follows:

Your class circular of March 17 has just come to hand. I regret that I will not be able to attend the 1917 Reunion of Technology Clubs Associated at Cleveland, as I am extremely busy trying to clear up my work so that if the call to service comes, I can get away. My part of the work in the defense in case war is declared, is already settled, as I hold a commission as major in the Officers' Reserve Corps, U. S. Army, assigned to the Depot at Omaha, Nebraska, as assistant quartermaster.

I will be very glad indeed to hear from the meeting and from the class in general. I will never forget the glorious time last spring and wish it could be repeated every year. If you attend, please give my warmest regards to all of the boys, both of '99 and the other classes that we know.

We quote in part from a letter sent to the secretary from James B. Ellery advocating the single tax:

As to yours of January 9 asking for views on "Technology's Duty to the National Government," will say briefly that in my opinion Tech men can best fulfil their duty to the government, to Tech and to themselves, by standing for and working for, in fact demanding that all revenues, local, state and national, shall be raised by the single tax on land values, as presented by Henry George in "Progress and Poverty," all other taxes to be abolished.

J. Walter Allen has recently been appointed electrical engineer of the Boston Elevated Railway. Allen has been employed by the Boston company throughout his entire career, having filled every post in the electrical department from cable tester to acting electrical engineer.

1900.

WILLIAM R. HURD, 2D.

RICHARD WASTCOAT.

PERCY R. ZIEGLER.

INGERSOLL BOWDITCH, Sec., 111 Devonshire Street, Boston, Mass.

Bowditch attended the meeting of the Technology Clubs Associated at Cleveland and reports as follows:

Ten alumni left Boston on the 4.45 train Wednesday, April 18, and arrived at Cleveland about noon the next day. Tom Perry was in the party, having come East on business and planned his trip so that he could go back with the Boston contingent. He carried his pocket typewriter with him to make out his business reports while they were fresh in his mind and entertained the car with its "music." He had dinner with Ziegler before he left Boston.

Thursday afternoon was spent getting acquainted and the smoker in the evening was most entertaining. Friday was spent in

Akron as guests of the rubber companies, and in the afternoon we were taken to see the Anna Dean Farm at Barberton. Anybody interested in stock raising and vegetable cultivation under glass should make an effort to see what is being done here. We were also invited to visit the country estate of Mr. Seiberling, president of the Goodyear Rubber Company. This is a most attractive place with a large house and well laid out grounds. Everything was in very good taste and the rooms were very homelike and livable. Mr. Seiberling entertained us with his organ and we returned the compliment by singing Tech songs. Saturday morning we were taken to Nela Park and the glass works of the lamp department of the General Electric Company. I was fortunate in having Cady, '01, who was with 1900 a part of his course at Tech, show me over his laboratory and he gave me a most interesting time. He is doing research work in pure science and assists in the administration of the laboratory. One of the most interesting things which he showed me was the effects on color of the different kinds of lamps. The "day light" lamp showed material in its true color, but the mazda and other lamps made a great change in the color. This is why our wives have to return goods to the stores because they look so different when they are sent home.

Saturday afternoon a very interesting and instructive preparedness meeting was held and it was voted to hold the next reunion in Philadelphia. It is hoped that more of the Boston alumni can attend. Z. M. Briggs showed up here.

The banquet in the evening was well attended. F. R. Walker, Tom Perry and Silverman, with me, represented 1900. At my table were Perry and Silverman, '00, Williams, Frederick W. Smith, Campbell and Cady, '01. Most of the 1901 men had been with 1900 at some time during their course at Tech and several of us had been to other colleges before coming to Tech. We had a most interesting evening and enjoyed listening to each other's experiences. There is nothing like these reunions to get acquainted with the fellows. The return trip to Boston was uneventful, except that the train was three and a half hours late, and most enjoyable. It is a great pleasure to travel with such good companions as Professor Richards and Mr. James P. Munroe, to say nothing of the others in the party. I have attended all the reunions except the one in Chicago, and advise everybody to go to Philadelphia who can arrange it.

Word has been received of the death from pneumonia of Walter N. Charles, on January 21. The secretary asked Wastcoat to attend the funeral and flowers were sent from the class. The short account which follows was taken from the *Morning Mercury* of New Bedford.

"Walter N. Charles, who has been assistant superintendent of streets for about two years, died during Saturday night at his home, 176 Clinton street, of pneumonia, after an illness of four

days. Mr. Charles suffered also from diabetes. He was at work last Monday and Tuesday, but complained of a cold, and remained at home Wednesday. His condition became critical Friday when pneumonia developed.

"Mr. Charles was born in the suburbs of Boston 38 years ago, and was a graduate of the Massachusetts Institute of Technology in the civil engineering course. For several years he was assistant engineer in charge of the work on the Charles River Basin in Boston, and about six years ago he came to this city to be employed as field engineer on the intercepting sewer work. In April, 1915, he was named as assistant superintendent of streets, which work he did in addition to his work as engineer in charge of the intercepting sewer.

"Mr. Charles was a member of the Boston Society of Civil Engineers, a member of the Technology Club of New Bedford, and of the Dartmouth Club. He is survived by a widow who was Miss Maude Blood of Dorchester. His only relatives who survive him are an aunt and uncle who live in Fryeburg, Maine."

Address Changes

Charles J. Bacon, 7211 Paxton Ave., Chicago, Ill.—Arthur W. Geiger, Tonopah, Nevada.—George C. Gibbs, 217 W. 3rd St., Okmulgee, Okla.—Robert H. Leach, care Handy & Harman, Bridgeport, Conn.—Herbert A. Macpherson, 727 Monroe Ave., Green Bay, Wis.—Albert S. Merrill, Turner Construction Co., 244 Madison Ave., New York, N. Y.—Frederick W. Snow, Room 1227, 42 Broadway, New York, N. Y.—M. Silverman, International Clay Machinery Co., Dayton, Ohio.—Willard W. Stone, 1446 E. 54th St., Chicago, Ill.—Charles H. Stratton, Bu. of Yards & Docks, Navy Department, Washington, D. C.—Frank D. Warren, 1320 Jefferson Bank Bldg., Birmingham, Ala.—Frederick D. Buffum, 3130 Middletown Rd., Pittsburgh, Pa.—William Christensen, Room 1703, 195 Broadway, New York, N. Y.—Harry H. Hamlen, Communication Office, Navy Yard, Charleston, S. C.—Charles H. Hughes, 27 William St., New York, N. Y.—Daniel S. Johnson, Battle Mountain, Nev.—Robert R. Lingley, 193 Lexington Ave., Cambridge, Mass.—William R. McAusland, 4315 Broadway, Chicago, Ill.—Harry L. Morse, '99, Benicia Arsenal, Benicia, Cal.—Horace W. Oxnard, 314 Huntoon St., Topeka, Kan.—Lewen F. Searle, Grand Gorge, New York, N. Y.—Louis W. Shumaker, Telepost, 395 Broadway, New York, N. Y.—Mortimer Silverman, International Clay Machinery Co., Dayton, Ohio.

1901.

ROBERT L. WILLIAMS, *Sec.*, 107 Waban Hill Road North,
Chesnut Hill, Mass.

The secretary has just returned from a business trip to Old Point Comfort, Virginia, and finds a letter from Litchfield saying

it is time for another bunch of news from '01, so here goes! While at Old Point I had the pleasure of meeting Roger W. Wight who was taking a few weeks' rest from a year of strenuous work in the insurance business. Coming up from New York I met Harry R. White on the train and talked over old times. He is with the American Telephone and Telegraph Company. He said that Francis B. Driscoll, who was with the same company, had recently resigned to become a lieutenant commander in the signal department of the navy.

Our President Brush, also president of the Boston Elevated, has indicated to officials and employees of that transportation corporation that the use of intoxicants in such a way as to impair personal efficiency will be considered a sufficient reason for discharge by the company. So far this ruling has not been applied to '01.

F. S. Clapp, managing geologist of the Associated Geological Engineers has gone to Arkansas.

W. W. Walcott resides in Natick, Mass. He is assistant visiting physician to Long Island Hospital and assistant physician to out-patients of the Massachusetts General Hospital.—C. W. Cole is manager of McKinney Manufacturing Company, Pittsburgh, Pa.—Lamot duPont, the vice-president of our class, has seven children and the record of the class in this respect as far as the secretary knows. If any one can beat this record, let me know.

Frederick H. Sexton, president of Nova Scotia Technical College, is director of technical education for the Province of Nova Scotia and vocational officer for Military Hospitals Commission, Dominion of Canada. He writes:

Since the first of April 1916, I have been engaged in organizing general and vocational classes for returned Canadian soldiers who have been disabled at the front and are now convalescing in the Convalescent Homes under the Dominion Military Hospitals Commission. My territory embraces the Maritime Provinces and Quebec. Classes in Business English and French, bookkeeping, typewriting and stenography, practical arithmetic, carpentry, etc., have already been organized and the soldiers are making remarkable progress in preparing themselves for their return to industrial life.

The following is taken from the *Engineering Record*:

"William E. Hamlin, civil engineer, said to have been one of the four or five men who submitted bids for constructing the Panama Canal, died February 13 in Pasadena, Cal., where he had resided during the last five years. He was 44 years of age. Mr. Hamlin was born in Boston and attended Massachusetts Institute of Technology. From 1893 to 1898 he was in charge of city surveys for the Boston Water Department and of tidal observation and triangulation work. Later he constructed different roads and sewers and was engaged on pile and foundation construction. In 1902 he went to Venice, Italy, to estimate the cost of rebuilding the Campanile tower and to make a study of the Italian cement industry. In 1903 he was with F. S. Gilbreth, engineer, contractor

and manufacturer, as chief civil engineer in charge of the New York office. Later he forsook contracting and engineering pursuits and went to California to develop and manage his property there, where he was owner of a large tract of land near Red Bluff."

James Chadbourne Woodsome passed away April 18, after an illness of about three months.

The following recent address changes have been received: Charles Bittinger, Duxbury, Mass.—C. F. F. Campbell, Ohio State School for the Blind, Columbus, Ohio.—Richard E. Dow, General Chemical Co. of Cal., Martinez, Cal.—Roger W. Wight, care of Dunn Ins. Co., 84 Williams St., New York.—Miss Greta Gray, 1316 S. Broadway, Pittsburgh, Kan.

1903.

M. H. CLARK, *Sec.*, 1790 Broadway, New York, N. Y.

R. H. NUTTER, *Asst. Sec.*, Box 272, Lynn, Mass.

W. H. Adams is the only one who has confessed as to the mysteries of his present life. He anticipated the present condition of affairs, and writes as follows:

I am back at work after my summer in the East and have been adding to my work by preparing for examination for the Engineer Officers' Reserve Corps, U. S. A. I took the exam. over a week ago but will not hear from the War Department for some time. I am trying for a commission as captain.

Address Changes

John F. Ancona, Cutler Bldg., Rochester, N. Y.—Charles S. Cole, 820 Penobscot Bldg., Detroit, Mich.—Henry H. Fales, 25 Madison Ave., New York, N. Y.—Frank R. Farnham, 3380 Washington St., Jamaica Plain, Mass.—Richard M. Field, 123 Pierrepont St., Brooklyn, N. Y.—Thomas M. Hamilton, Casilla 83 D. Calle Teatinos 351, Santiago, Chile.—Albert A. Haskell, care of International Portland Cement Corporation, Sierras Bayos, Argentina Republic.—Prof. J. W. Howard, M. I. T., Cambridge, Mass.—Lewis R. Kaufman, 681 Fifth Ave., New York, N. Y.—George E. Kershaw, Suite 200, 30 Church St., New York, N. Y.—Walter Lorrain, care of Northern Trust Co., Chicago, Ill.—Arthur S. Martin, 243 Harvard Ave., Allston, Mass.—Frank P. Montgomery, 95 Williams St., New York, N. Y.—Frank DeG. Rathbun, care of Arizona Copper Co., Morenci, Ariz.—Philip B. Rice, 4 Theresa Place, Stapleton, N. Y.—C. Frank Sammet, care of Crane & Co., Dalton, Mass.—James S. Sheafe, 5837 Blackstone Ave., Chicago, Ill.—Horace G. Simpson, Wood & Simpson, French Bank Bldg., San Francisco, Cal.—Benjamin D. Solomon, 40 Court St., Boston, Mass.—Lydia G. Weld, Lancaster, Calif.

1904.

HENRY W. STEVENS, *Sec.*, 39 Boylston Street, Boston, Mass.
AMASA M. HOLCOMBE, *Asst. Sec.*, 510 Pine Street, St. Louis, Mo.

In opening these notes, the secretary humbly apologizes for his laxity in allowing the January REVIEW to be published without any evidence that 1904 was still in existence. An apology is all that he can offer, as he has no valid excuse.

December 27, 1916, will always be remembered by the secretary, as on that date he was eminently assured of the good will and esteem of his classmates, by the presentation to him of a beautiful gold watch, at a dinner held at the Boston City Club.

The presentation speech was made by Mert Emerson, who stated among other things complimentary, that the gift was intended to express the thanks and gratefulness of the class for the efforts and hard work of the secretary in serving the class. Due to surprise and emotion, the secretary's response was not what could be termed a classic, but his appreciation was none the less sincere and deeply felt, although he feels that his efforts have hardly been worth such a reward. The gift itself can be no more a satisfaction to the secretary than the knowledge that his classmates bear him such a heartfelt affection, as it indicates.

The watch bears the following inscription:

Presented to Henry W. Stevens by his Classmates, in commemoration of his election on June 10, 1916, as secretary for life, of the class of 1904, Massachusetts Institute of Technology.

The secretary wishes to thank his classmates heartily for their gift and to assure them that he will continue to serve them to the best of his ability in the post to which they have chosen him.

After this event, those present were entertained for two hours by our classmate, Major Richard K. Hale, of the Massachusetts Field Artillery, who related many personal experiences of his tour of duty on the Mexican border, during the summer of 1916. Those attending the event were Hiller, Homer, P. S. Sweetser, Galusha, C. J. Emerson, M. L. Emerson, Stebbins, Rockwood, Parker and the secretary.

Hiller has severed his connection with the Pneumatic Scale Corporation and is now located in Hartford, Conn., with Lorenz & Lorenz, manufacturers of automatic machinery.

Closely following the previously mentioned dinner was the annual alumni banquet at the Hotel Somerset. Our class was represented by about the usual number, eleven to be exact, those present being Kalmus, Trowbridge, Tripp, Hyde, Walworth, Gunn, Gould, Galusha, Munster, Bourne and the secretary.

"'04" was also well represented at the New York alumni dinner, as the following letter from Bill Evans will testify. This letter was in reply to one from the secretary, in which the secretary did not mention the fact that he attended the Boston dinner. Hence

Bill assumed the New York bunch had beaten the "Bean Eaters" in the matter of attendance:

"This is to report on our success in pulling out '04 men to the New York alumni dinner.

"We beat the Boston crowd by one for we had eleven out to the dinner. That is not bad for the comparatively small crowd we have to draw upon. They were: John D. McQuaid, C. C. Easterbrooks, H. N. Goddard, W. B. Boggs, H. W. Hathaway, S. Haar, E. B. Rich, W. G. H. Whittaker, N. Chamberlin, E. L. Rupf, W. A. Evans.

"There were about fifty notices sent out and besides the returns received from the above, reply post cards came back from twelve others. These latter gave no excuse for their non-attendance so we have to imply that they had none. We can only guess for a few that distance interfered. Charlie Hoy lives nearer Philadelphia than New York so we have to excuse him. Bill Edgecomb sent in his reply from Middletown, Ohio. We could hardly expect him to show up. We will count on them both when we have one of our distinctly class affairs here in New York.

"We are going to try it on for Tuesday, February 27, and I am sending out notices now to the fifty telling them to reserve that date for a real '04 class reunion at the Technology Club of New York. I wish that you might come along, or send a representative to see how well we can do it."

Another letter from "Bill" under date of March 12, 1917, shows that the 1904 dinner projected for February 27 was held, and was a success. Eleven seems to be a number to rely on:

"You will be looking for a report on the '04 get-together in New York on February 27.

"Two notices were sent out to about fifty of our class located within reasonable distance of New York, and eleven responded by their presence. These were: Whittaker, Needham, Miller, Haar, Easterbrooks, Rupf, Goddard, Gill, Skowronski, Williams, Evans.

"There are but few classes that get together a larger number than this, or even as large, so we can take some pride in numbers.

"We met at seven o'clock at the club and had dinner together. After the meal was well out of the way, we just sat around the table and gossiped. It might sound like a sewing circle report if I attempted to review what we talked about. Nevertheless, we had a good time and all were apparently anxious for a repetition before long.

"The reality of this interest in a repetition will be demonstrated by the extent to which the fellows respond to another call which I will take it upon myself to make the latter part of April.

"This is the first time the New York crowd has ever had any kind of a meeting and it was the first time that a good many of the eleven had even seen their classmates since graduation, almost thirteen years ago."

Evans has been appointed assistant secretary for the New York district. He has been supplied with a list of "04" living within striking distance of the big city, and they may expect to hear from him at any time.

Noel Chamberlain is a member of the Board of Governors of the New York Technology Club for 1916-17 and is also chairman of the Art and Library Committee.

That "04" are to the "fore" in the "movies" as well as in other lines is evidenced by the following clipping from the *Boston Advertiser* of November 25, 1916:

Three Boston men have revolutionized the motion picture business. After a series of 30 inventions this trio, who may well be called the fairy godfathers of the amusement world, have discovered processes which make color motion picture photography possible. Not since the invention of the phonograph has there been a popular scientific discovery which is fraught with more possibilities than this same announcement that color motion picture photography has come at last.

These men have discovered a process by which colored moving pictures can be made. Their great discovery is not the making of films hand tinted in solid body colors and as disappointing as they are surprising in their occidental effect. They have not discovered the "purple cow" variety that has been tried before and found wanting. They now have pictures in natural colors and as lifelike and absolute as the scenes they depict.

The work of these Boston men will eventually sign the death warrant of the black and white movie.

For once you see moving pictures in actual color you have no use for black and white pictures.

The Technicolor process is the work of a Boston firm of engineers and scientists, Kalmus, Comstock & Westcott, Inc., their work extending over a period of three years. The members of this firm and many of their co-workers and employees are Massachusetts Institute of Technology graduates. Dr. Daniel F. Comstock is at present a professor in the department of physics; Dr. Herbert T. Kalmus was formerly a member of the Institute staff and later professor at Queen's University, Canada, and in charge of the technical research department for the Canadian government, while Mr. W. Burton Westcott has been engaged in the design of technical apparatus for some years.

This firm has focused on this development the constant attention and energy of a large staff of its highly trained experts, usually 15 or 20, over a period of years, the outcome of which is a long list of patent rights, 30 odd in number, covering all phases of the process and its equipment, and running into many hundreds of thousands of dollars of preliminary expenditure.

Another classmate has joined the ranks of the benedicts as this announcement bears witness:

Mrs. Samuel Haines Ayers announces the marriage of her daughter, Helen Beach, to Mr. Lewis Goode Gillette on Tuesday, February twentieth, nineteen hundred and seventeen, Toledo, Ohio.

At home after April first, Silverton, Colorado.

C. H. Stebbins has left the Avery Chemical Company, with whom he has been associated the past two years and is now assistant treasurer of the Atlantic Chemical Company at 40 Central street, Boston.—C. L. Homer has been appointed engineer officer of the 7th and 8th divisions of the First Volunteer Patrol Squadron. These divisions cover the coast of Massachusetts, from Thatcher's Island to Chatham.—R. B. Dole passed away on January 21, 1917,

at Washington, D. C. He was connected with the United States Geological Survey, and for some time previous to his death had been in a hospital, suffering from a nervous breakdown. Reports of his condition were entirely favorable until a few hours before his death, when a weakened heart indicated a crisis through which the doctors were unable to carry him.

Great sorrow came to Austin Y. Hoy of our class when his mother and sister lost their lives as the result of the torpedoing of the steamship *Laconia* by a German submarine. In a strong, but dignified letter to President Wilson, Hoy called upon the President to avenge his loss, and stated that should no action be taken by this country, he would seek personal satisfaction by enlisting under the British or French flags. It has been rumored in the newspapers, that, impatient at the delayed action on the part of our government, he has renounced his allegiance to the United States, and entered the British service, but we have no actual substantiation of this fact.

Guy C. Riddell, consulting metallurgist, New York City, has been called to Australia by the Broken Hill Associated Smelters, Ltd., as adviser and consultant, in the reorganization of the world's largest lead smeltery, the Port Pirie plant of the B. H. A. S. Proprietary Company. The enormous capacity of this old Port Pirie plant, 160,000 tons refined lead per annum, has since the outbreak of the war been exerted to the full in the task of supplying lead munitions for Great Britain, this famous Broken Hill lode having proved the backbone of the lead and zinc supply of the Allied Powers.

The new owners, a combination of the principal lead and zinc producers of Australia, are planning still further enlargement, and a complete modernization of the old Port Pirie works, under the guidance of Mr. Riddell, as soon as war conditions permit sufficient easing-up of production to allow reconstruction. Riddell, before leaving the States, was for some years superintendent of the lead plant of the American Smelting and Refining Company at East Helena, Montana.

In connection with the above item, the secretary has received the following letter from Riddell himself, dated at Port Pirie, April 4, 1917:

Much as I like to read of the doings of the fellows in '01, '02, '03 and '04, as the Reviews come along, I never could get up sufficient spunk to send in a line about myself as long as I was in the States. Over here in South Australia, however, next to the South Pole, the 7,000 miles of South Pacific Ocean between Sydney and San Francisco have sort of bolstered up my nerve, and I will send you a line in the hope that some of the other chaps scattered around the globe may loosen up and spill a little news "on their own." "On their own," let me tell you is typically Australian, one of the many lively terms that have been worked into the English language over here in the Bush.

I have been here now about a year, with the Broken Hill Associated Smelters at Port Pirie, crowding along the production of one of the sinews of war for the Allies—lead munitions. My work is that of consultant, in the matter of remodelling the

old smelter and refinery at Port Pirie formerly belonging to the Broken Hill Proprietary Company, but now owned by a new combine of Australian mining and smelting interests. It has been for many years the largest lead plant of the world in point of production and the new owners intend to bring it up to the minute, mechanically and metallurgically.

Have just had a fine visit with R. P. Roberts, '00, R. S. Stickt's right hand at the Mt. Lyell Works, Tasmania, formerly at Great Falls, Montana, who came back from the Island for a few days this week. We had the finest kind of a time yarning over the new Tech and the old Tech and American affairs generally. He has been in Tasmania for about four years and is looking forward to a long trip home one of these days soon, with Mrs. Roberts and the three nippers.

Harry Noyes, '04, has just signed up for another term at the Newcastle Steel Works, over here, where he has been for the past three years as superintendent of blast furnaces. He is as fat and good-natured as of old, and is getting along famously at the Steel Works.

Australia has been good to us—a land of sunshine, birds and flowers, and *dust*. Mrs. Riddell and son Bob are still good Americans, however, and are also looking forward to a return to the States this fall.

We have received today the first news of America's decision on the war, and my backbone has stiffened up not a little since the morning paper came around. Have had no end of difficulty the last few months explaining to these people—and myself as well—why Uncle Sam didn't do this long, long ago.

1905.

GROSVENOR D'W. MARCY, *Sec.*, 246 Summer Street, Boston, Mass.
CHARLES W. HAWKES, *Asst. Sec.*, 246 Summer Street, Boston, Mass.

The principal class activities since the last issue of the REVIEW were two bowling parties, which are characteristically described in the following report from the efficient chairman of our stunt committee:

"February 7. Preparedness Night we met at Bova's Café and had a pleasant time of it; those present being Keith, Farrington, Bartlett, Emerson, Killion, Ayer, Prescott, Johnson, Kenway, Fisher, Guibord, Marcy, and Bill Green. The bowling following dinner was fairly close. Ralph Emerson was high man with an average of $88\frac{1}{3}$, Charles H. Johnson being a close second with $87\frac{2}{3}$.

"February 17. Bowling match with '07. As this match was for blood revenge the chairman of the stunt committee felt called upon to get a few star bowlers for the double purpose of saving money for our class and also letting that '07 bunch of huskies know that we were 'there again.' Prince Crowell justified his position on the scrub team by a good safe margin. By the way it is worthy of note that our scrub team, captained by Rivitz, put over a 420 score on the last string when one of our so-called star teams was going stale. The final score was 10 points to 2 in favor of '05.

"Walter Eichler, the Merrimack Valley star, amply justified our confidence in him by pulling out a strike in the last box of the first string getting Lawrie Allen's goat to such an extent that he started right in collecting the money from his '07 associates. Walter was a little off in his spit-ball but came through with an

average well above his guarantee. Guibord of Eichler's team saved the bacon in the last string with first honors in high individual string total with 112 to his credit.

"Bob Farrington acted as host at the B. A. A. preceding the bowling match, with our old friend Major Briggs at the head of the table. The major paid the class of '05 a few compliments and beat it for the games in Mechanics Hall when we called on him for a speech. Farrington bought us each a large glass of bowling beer. This is a new brand made by Burkhardt.

"The Box Score follows:

'05 Capt. Rivitz		'07	
Marcy, Hawkes, Crowell, Killion		Goose egg for	
	350	'07	
4 points for '05	371		
	420		
	<hr/>		
	1,141		
'05 Capt. Emerson		'07	
Kenway, Fisher, Green, Goodale			
	404		
2 points for '05	405		
	388	2 points for	
	<hr/>	'07	
	1,197		
'05 Capt. Eichler		'07	
Farrington, Briggs, Guibord, Armstrong			
	423		
4 points for '05	357		
	440	Goose egg for	
	<hr/>	'07	
	1,220		
Total	'05, 10 points	'07, 2 points	

Very respectfully submitted

A. FISHER,
Chairman, Stunt Committee."

The following note was received from "Seedy" Klahr, headed West Penn. Hospital, Pittsburgh, which shows where another '05 man stands on the big proposition:

Your postal on Preparedness was delayed in reaching me on account of my being at the above place for an appendicitis operation.

Doubtless my ideas on Preparedness will be late in reaching you, but as they can be expressed in very few words here they are:

There is only one safe way and that is to think, talk and act for Preparedness.

E. C. Smith writes that he has changed his address to 314 South Washington street, Fremont, Ohio, and that he is glad to get back

to the United States after six years in Canada but sorry to find the nation "so sound asleep internationally and unprepared." Perhaps by the time this is printed E. C. will decide we have waked up.—Gorham Crosby announces the removal of his offices to 80 Maiden lane (27 Cedar St.) where he will continue the practice of patent and trade mark law.—Henry Stevenson is now with the Foxboro Company, makers of recording gauges, thermometers, orifice meters, etc.—The secretary recently received a long letter from E. B. Snow, Jr., who is in the real estate business with Clemons, Knight, Menard & Paul, Farwell Building, Detroit, Michigan. He is very enthusiastic about some new subdivisions that are opening up in the suburbs of Detroit where a tremendous growth has been going on and large fortunes have been made. He would be glad to send details to any classmate with money to invest in what looks like a good proposition.

The following extract from a letter from J. A. Meggison, 13 Hicks street., Brooklyn, N. Y., shows the diversity of occupation followed by our classmates and will be of interest:

The class of '05 and M. I. T. have a warm place in my affections, and if I get to Boston again I shall be glad to pay you a visit if I can find the time, and I shall certainly go out to see the new M. I. T. buildings. I am very glad of the better facilities and greater room and added beauty which M. I. T. will have. It is a credit to the state. I hope I may visit there soon as I have not been in Boston since 1910.

The work in which I am engaged is that of a traveling lecturer on Bible topics for the International Bible Students Association, whose headquarters are at 13 Hicks street, Brooklyn, N. Y. There is no salary to the work, but my expenses are paid. You would not think perhaps that the M. I. T. electrical engineering course would help fit a man for the ministry, but it was of great help to me. The main thing was the mental training, the ability to concentrate the mind on the work in hand even if it might be unpleasant to the body. I have had much Bible study to do, getting rid of old errors embodied in the Creeds, and making sure that I was getting the real, complete and harmonious testimony of the Bible on the subject in hand, such as—the state of the dead, about the soul, the nature of man, his destiny, the plan of salvation, the nature of the punishment for wilful sin, etc. When I did see the united testimony of the Bible on such topics I was astonished at their beauty, simplicity, and reasonableness. So my work is calling attention to these harmonious testimonies so as to help others who are seeking the truth. It is a great privilege to serve thus, for one of the great needs of men is a better knowledge of their Creator's character, His love and wisdom and justice and power. Such a knowledge would make them love each other better and make for peace and true brotherhood among men.

There is a large ecclesia of Bible students in Boston. I believe they meet in Steinert Hall near Park Square on Sunday afternoons and evenings.

Best wishes for your success, and remember me to any who inquire for me.

Jack Holliday sent in his information blank too late to get in the 10-year book, so we will print the story here which is interesting though short:

Spent first two years after graduation in foundry work, then put in a year studying metallurgy at Columbia. Found foundry metallurgy a poor field and so went into construction work with J. G. White & Co. With them a year and a half on two power-house jobs. From this drifted into the cement business with the Riverside Portland Cement Company, Riverside, Calif.

Returned January 1914 and went into the drop forging business for myself. Sold out June 1916. Now doing consulting work.

The 10-year book, by the way, is actually in the bindery, and will undoubtedly have been delivered before this number of the REVIEW reaches you.

1907.

BRYANT NICHOLS, *Sec.*, 10 Grand View Road, Chelsea, Mass.

HAROLD S. WONSON, *Asst. Sec.*, Waban, Mass.

Percival L. Adams writes as follows:

Please change my mailing address from East 17th and Center streets, to 461 East Alder street, Portland, Oregon. I have left the employ of the Portland Railway Light & Power Company, where I have been for the past five years, to become the outside representative of the John Woods Iron Works and designing engineer for them. I have been in the street railway business ever since leaving Boston, but increasing legislative regulations, jitney competition, increasing costs of labor and materials without a corresponding increase in revenue have all tended to make the industry so unprofitable and the possibilities of advancement so meagre that I have decided to get into a line of business where there are better chances for success.

A. F. Bancroft is now living at 25 Magnolia avenue, Haverhill, Mass.—On April 7, 1917, Clinton C. Barker was married to Miss Jessie Barker of North Andover, Mass.—The address of M. H. Eisenhart is 272 Culver road, Rochester, N. Y.—G. S. Gould is at 688 Webster street, Needham, Mass.—Charles M. Hutchins was married early in December, 1916, at Albany, N. Y., to Mrs. Theresa B. Cannon.—On April 30, 1917, at Newark, N. J., occurred the marriage of Arthur R. Jealous and Miss Helen Baldwin.—William H. Martin was married on February 10, 1917, to Miss Gertrude M. Cunningham of New Bedford, Mass.—Alexander Macomber has received a commission as captain of engineers and on May 7 he left Boston for Plattsburg.—John S. Nicholls, Jr., was born on November 10, 1916.—Bryant Nichols, class secretary, has left the employ of the Revere Rubber Company, where he was located for over eight years, and on May 1, 1917, became associated with Haven & Fish, Boston managers of the Phoenix Mutual Life Insurance Company, whose home office is at Hartford, Conn. His present office is at 30 State street, Boston, but after September 1, 1917, will be at 85 Devonshire street, Boston.—Capt. George R. Norton, U. S. A., is at 3 Armory square, Springfield, Mass.—W. W. Pagon has opened an office for himself as a structural engineer at 1218 Fidelity building, Baltimore, Md.—O. L. Peabody is living at 37 Press avenue, Norwood, Mass.—D. E. Russ is at 12 Hone avenue, Oil City, Pa.—E. H. Sargent, 25 Delaware terrace, Albany, N. Y.—Gilbert Small, Jr., was born on March 21, 1917.—John Tetlow is now with the Hyatt Roller Bearing Company at Harrison, N. J., and he is living at 205 North 9th street, Newark, N. J.—Robert E. Thayer

is now to be found at room 2201, Woolworth building, New York City.—Richard George Woodbridge, 3d, was born on February 22, 1917.

Philip F. Kennedy, a graduate in Course I, was drowned on January 29, 1917. A Spokane, Washington, paper of that date gives this account:

Philip F. Kennedy, 34 years old, superintendent of construction on the new Post street bridge, lost his life when he fell into the river from the structure about 10.40 this forenoon and was carried over the dam and lower falls and into the whirlpool near the Monroe street bridge. While standing on a projecting plank on the runway, he apparently lost his balance, fell to the framework on the north arch of the new bridge and dropped through into the icy water. He had been on the temporary structure conferring with his men only a few minutes when the accident happened. . . . Kennedy, who resides at N 1129 Hamilton street, leaves a wife and twin sons, four and a half years old. . . . Superintendent Kennedy came to Spokane nine years ago from Boston, Mass., as one of the representatives of Olmsted Brothers, landscape designers. He was a graduate of the Massachusetts Institute of Technology, and had gained reputation as an able civil engineer. From 1908 to 1913 he was assistant engineer. He helped design the new Monroe street bridge and was one of the construction engineers in charge. He also was engaged in construction work on the Library Theatre building. When the contract for the new Post street bridge was awarded, the contractors employed Mr. Kennedy as superintendent in charge. Mr. Kennedy took an active interest in the affairs of the St. Aloysius Church, of which he was a member. He has also identified himself actively with local engineering societies.

1908.

RUDOLPH B. WEILER, *Sec.*, care The Sharples Separator Co., West Chester, Pa.

CHARLES W. WHITMORE, *Asst. Sec.*, care Foreign American Trading Co., 161 Devonshire Street, Boston, Mass.

I.

On the part of the secretaries

The March meeting was held at the Engineers Club on the 13th. There were twenty-four members of the class on hand, and the guest, Mr. Charles Flamand, who was the speaker of the evening. The whole party sat around one large oval table in a private dining-room, and it sure did look good to glance around the board and see the many familiar faces. It was by far the best get-together spirit which we have had this winter.

Mr. Flamand is the son of the French Consul in Boston, and has had some very remarkable experiences in the European war. He went to France some months before the outbreak of the war to do his service in the French army and was pretty well trained by the time the war started. He saw service in the battles of Marne and Ypres, among other battles; was wounded in three different battles, and had the experience of being taken prisoner by going from the outlook post into the wrong trench. He was captured by nine Bavarian soldiers who were rather dazed by having inhaled too

much ether, and by a tactful bluff he leaped from the trench and started towards his lines with the nine Bavarians after him. It ended up by his taking them right into the French lines and securing them as prisoners. He was decorated at two different times by the French government and received several promotions in rank. He has given his account of his experiences before many clubs and organizations about Boston and all the members of the class found his two-hour talk most delightfully interesting and instructive. After the address was over there was a general discussion of war topics.

A joint dinner for our May meeting with the 1909 class is being considered and a bowling competition between the two classes.

A. M. Cook has been transferred to Chicago by the Stone & Webster organization and his address from now on will be Stone & Webster Engineering Corporation, First National Bank Bldg., Chicago.—Two days after the January REVIEW came out announcing that "Whit" had gone on a trip to South America, he returned. Address is as shown at beginning of this article.

It is with extreme regret that we have to announce once more the death of a prominent member of the class—Paul Revere Fanning, which occurred on February 28 in a wreck on the Pennsylvania Railroad at Mount Union, Pa. He was on his honeymoon trip from Platteville, Wis., to New York. The train had stopped on account of air brake trouble and while standing, a train following crashed at high speed into the rear car which happened to be a sleeper, completely wrecking the car and killing every occupant, including Fanning and his bride. Paul Revere Fanning was born November 30, 1885, and prepared for the Institute at the Brookline High School. He was very active and successful in tennis affairs, winning the M. I. T. tennis championship and also the New England Intercollegiate tennis championship in singles and doubles. After graduation in mining engineering he associated himself with the Henry Woods Testing Plant in Denver, going from there to Manila, P. I., with the San Mauricio Mining Company, later becoming assayer with the Bureau of Science, Manila. While here he continued his athletic triumphs and was runner-up in the Carnival Tennis Tournament at Manila, and with Gee won the doubles. Returning from the Far East he went to St. Louis with the American Zinc Lead & Smelting Company, afterwards going to Platteville, Wis., with the Wisconsin Zinc Company, where he was employed at the time of his tragic death. At the March meeting the following resolutions were adopted:

WHEREAS, God in His infinite wisdom hath removed from our midst another of our classmates, be it

Resolved: That in the death of Paul Revere Fanning, the class of 1908 of the Massachusetts Institute of Technology has lost a valued member and a true friend;

That a page of the record book be set apart to his memory and these resolutions spread thereon;

That a copy of these resolutions be sent to his bereaved family as a token of our high regard for him and our sincere sympathy for them.

Class of 1908 of the Massachusetts Institute of Technology

By HERBERT T. GERRISH,

LINCOLN MAYO,

Committee on Resolutions.

Letters

From George D. Whittle under date of March 9 from Washington, D. C.:

I am now located in Washington, D. C., as a highway bridge engineer in the United States office of Public Roads. It is the first time since graduating that I have been this far East and I hope to be able to run up to Boston soon and see those wonderful new buildings. Have been in California the last four and one-half years, the last two and one-half of which I spent in the bridge department of the California Highway Commission.

It seems good, in a way, to get back East again but I must confess I hated to leave those mountains of California. Have seen three '08 men since arriving here, Damon, Ruggles and Edmonds. Ruggles just recently arrived from Seattle.

It surely seems good to see the old familiar faces again—neither of them have changed a bit in these nine years.

From H. E. Batsford under date of March 22, 1917:

I have delayed sending this letter in order to give you my correct address. On Saturday I leave for St. Albans, W. Va., in order to install the electric furnace plant of our company at that place.

During the past month I was offered the position of technical director of the Ohio Chemical & Manufacturing Company, of Cleveland, Ohio, but cannot accept the job yet, as I am in duty bound to install our present company's equipment. However, I am in hopes to be soon released so that I can move to Cleveland.

Please address all mail to me care of the Roessler & Hasslacher Chemical Company, St. Albans, W. Va.

A Wellesley (Mass.) paper announces Heath's engagement in January:

On Saturday afternoon, January 20, announcement was made of the engagement of Miss Rella Partridge, to Mr. Arnold Winchester Heath, M. I. T. '08. Miss Partridge is the daughter of Mr. and Mrs. William H. Partridge of 60 Fenway, Boston, and Mr. Heath is the son of Mr. and Mrs. A. H. B. Heath of Allston, and brother of Mrs. Frank H. Burt of Wellesley Hills.

The announcement was made at a very delightful tea given in honor of Miss Ruth Greene of Cedar Rapids, Iowa, a guest of Miss Partridge. Many friends from Wellesley and Boston were present. After the guests had met Miss Greene they went into the dining room which was most daintily and artistically decorated with a profusion of Ward roses. Hidden in each napkin was a tiny card announcing the betrothal. Miss E. Jean Partridge and Miss Elsa L. Richardson of Watertown presided at the tea table and Miss Eleanor Joslin of Wellesley and Miss Ethel Wiggins of Boston assisted in serving.

Mr. Heath is a graduate of M. I. T. '08 and is with the Edward Bryant Lime Company of Boston.

The class is producing bankers as well as engineers. Lock Davidson is secretary and treasurer of the Guarantee Title & Trust

Company, Wichita, Kans., and J. M. Burch, Jr., is director of the First National Bank of Dubuque, Ia.

1909.

CHARLES R. MAIN, *Sec.*, 201 Devonshire Street, Boston.

GEORGE A. HAYNES, *Asst. Sec.*, 530 Atlantic Avenue, Boston.

On March 6 an informal class dinner was held at the Engineers Club at which the following were present: R. S. Ayres, II; W. W. Clifford, I; C. W. Gram, X; G. A. Haynes, VII; Robert Inglee, II; C. D. Jacobs, II; C. R. Main, II; T. DeV. Martin, II; K. S. May, VI; C. D. Maynard, I; J. W. Parker, I; B. W. Pepper, I; C. H. Pope, X; L. C. Shaw, V; H. K. Spencer, II; R. B. Temple, II; G. E. Wallis, II; E. A. Ware, I.

It was voted to hold bi-monthly meetings on the second Wednesday of the odd months, and the next meeting will therefore be held on May 9. Notices will be sent out prior to the meeting giving time and place. At that meeting a committee consisting of Main, Spencer and Wallis is to report on the feasibility of some sort of an outing either for the day or week-end to be held in the summer.

After an enjoyable dinner some of the men went to a nearby bowling alley where a couple of teams were made up and the rest of the evening spent in bowling.

The marriage of Miss Elizabeth Elting, daughter of Mr. and Mrs. Irving Elting, to Harold Sharp, I, took place on January 27, 1917, at the home of the bride's parents, 729 Washington street, Brookline, Mass. The Rev. Daniel Dulany Addison, D. D., rector of the All Saints' Episcopal Church, Brookline, performed the ceremony. Owing to illness in the family, the wedding was informal and there were no bridal attendants.

The secretary has word that Eugene Connolly is to be congratulated upon the arrival of a little daughter, sometime in February.

It is with deep regret that the secretary announces the death of Thomas A. Tillard, I, of Petersfield, England, killed in France while serving his country in the Royal Flying Corps. Those of us who were privileged to know "Tom" feel, I am sure, a great loss. He was a man of sterling character, a thorough gentleman and a true sportsman, always of a cheerful disposition and thoughtful of the pleasure of others.

1910.

DUDLEY CLAPP, *Sec.*, Box 1275, Boston, Mass.

Federal Power & Light Co., 35 Congress Street, Boston, Mass.

Not as many letters come pouring into Box 1275, Boston, as your secretary would like to see and as you would like to read in

this column, but a few of the live ones responded and their letters follow. On a recent trip to the Middle West a few old classmates were encountered and some material gathered at first hand.

In Philadelphia I called on Frank Bell, our worthy class marshal, and found him busy in the manufacture of vacuum bottles, in fact president of the Simplex Manufacturing Company. It was a mighty interesting place to go through and showed the workings of Frank's master mind. The process is this:—no, I can't describe the method of producing vacuum though I have it in my head.

Another Philadelphia pal is Edwin Kenyon Jenckes. Jenckes announces the arrival on January 3, 1917, of Martha Gifford Jenckes. Her big brother, Kenyon Scott, escaped publicity in this column on his arrival May 14, 1914. Jenckes is in the coal business and all of us who are in the manufacturing or central station game know that the men in the coal business today are all millionaires, or ought to be.—As we go to press Harry Hale has not announced a name for his latest, a daughter born February 17.—The following card shows that Johnny Babcock (3d) is more prompt about the nomenclature of his youngster, the fourth, by the way, in an unbroken male line.

Important Item.—To announce the arrival of Willard Farington Babcock on March 14; weight, 6 lbs.

Carl H. Lovejoy gives us a note and change of address under date of March 25:

Please change my address to 1260 Mississippi avenue, Dormont, Pa. I have been with the Pittsburgh Testing Laboratory since last June, but only recently decided that I spend enough time in Pittsburgh to make my home there. I am a regular suburbanite now.

I am completely out of touch with the Tech crowd in this city. Although I have been married three years, I still spend most of my spare time at home or with a few friends in the neighborhood. As soon as the warm weather comes I shall be in Ohio and Indiana looking after asphalt roads, providing we are not at war.

Luther Davis' letter follows headed Walter Baker & Company Ltd., Milton, Mass.:

I wish to congratulate you as new secretary to the *Mitten*. Both my wife and myself have often wondered why you had not been proposed as ideal for that position. Now go to it and give the eleven class a run for first honors.

As you may notice from the letterhead you will need to make a change in my business address. Before I go any further I want to forestall any questions as to why the change. I did not go to hear Billy Sunday, neither did I hit the trail, or have any fear that the brewing business was tottering, nor do I think it a crime in society to belong to the "dirty bunch," although society seems to consider it more of a crime in the manufacture than in the consumption thereof. The brewing business is, however, a hard business to break away from owing to the prejudice against it, and I have been looking for a good opportunity near home. I had a couple in other cities but the family did not like them.

Record the birth of a daughter, Marjorie Anna, November 12.

The first baby in Course V is now attending the "*Ellen Richards*" primary school, he is at least starting right.

Do you know where E. Kenyon Jenckes is (V), and what he is doing? Also what is Chester Dunlap's present address?

Henry M. Schleicher says:

Your letter of the 22nd just received reminds me again of my negligence in regard to doing my duty toward the class.

I happen to be in a contrite mood just now; perhaps were I to get a statement from you of my total indebtedness I might be able to ease my conscience somewhat by cleaning the slate.

The crowd that worked up the Reunion features certainly deserve a great deal of praise.

If at any time I can be of any service whatever in connection with the numerous extra duties devolving on you, please call on me.

D. V. Williamson writes from Detroit Edison Company, Edison Bldg., Detroit:

I haven't much news to tell you about myself, being still with the Detroit Edison Company in the Construction Engineering Department. The growth of Detroit has been such that this company can hardly keep up with its development, and we are going to be put to it this summer to get enough power equipment installed to take care of next winter's load. We expect to install a 45,000 K. W. turbo-generator this summer, the machine being of the horizontal Curtis turbine type and weighing 1,000,000 pounds. It will receive steam from a battery of four 2365 H. P. boilers.

Good luck to you and I certainly wish you success.

"Geg" is at Castner Electrolytic Company, Niagara Falls, N. Y., and writes:

I have no *Mittenish* profusion of words to pour forth this time as I am too darn busy. Will merely tell my big news somewhat late,—had another son born December 19,—weight—awhile and find out as he is still growing rapidly.

Has the defunct Reunion Committee celebrated its demise? My regards to all the corpses.

If you contemplate going over the Falls soon drop down and see me. Farming, and chemistry and other forms of Niagriculture do not compensate quite for the loss of Boston, but we are surviving merrily.

V. T. H. Bien writes as follows:

At a meeting of the Tech folks here not long ago, I met only one 1910 man, Kenneth P. Armstrong, Course I. He is stationed here in Washington with the Interstate Commerce Commission, is married and very comfortably ensconced in his own home. He has been with the Interstate for several years though here only a few months.

I heard from French P. Sargeant shortly after Christmas. He is Course XIII and with the Worthington Pump people in New York, and I understand that he is the proud possessor of a young hopeful for the ranks of Wellesley in the future. He says nothing of any future Tech prospects. He wrote of a visit last summer from L. B. Chapman, also Course XIII, on one of his nomadic seafaring expeditions of the summer. But we cannot say whether Chap is married or not. I should be inclined to think not, because my recollection of him at Tech was that he was a believer in numbers, and therefore might well have had trouble in selecting one to become his partner for life. However, Chap, we would like to have some light on this subject. Sarge also states that there is some rumor that I have joined the benedicts. Quite right Sarge, something more than a year ago too. Had you read your REVIEW diligently, you would have known it. Yes, I am married, and am in Washington, the sole proprietor of a building and general contracting business. At present am building only small work relatively, but since starting some three years ago the size of our contracts and the volume of our business has steadily increased. The first year of course was very small and hardly netted me my salt, but the second year saw nine times as much work completed as the first year. The third year doubled the second and so far this year is doubling the third.

You may say what you will about the big corporations, but I prefer my own business with the personal freedom and independence that goes with it, with none (except my wife) to tell me what I must and must not do. Besides, one can enlarge his business if he will and has the ability, into as large a corporation as he will. While of course he starts necessarily in a very small way, and has to work very hard, still *his* are the fruits of his own labor.

The following address changes have been received: Stillman Batchellor, Mina La Mejn, Los Acostas, Pinar del Rio, Cuba.—Richard S. Bicknell, 18 S. Clinton St., East Orange, N. J.—Loren N. Downs, Jr., Room 1306, 195 Broadway, New York City.—Karl D. Fernstrom, 433 Raleigh Ave., Norfolk, Va.—Mayo D. Hersey, 1823 Vernon St., Washington, D. C.—Benjamin S. Hirschfeld, 251 Kearny St., San Francisco, Cal.—Benzo Katsura, 58 Seudaki Machi, Honkong, Tokio, Japan.—Lasley Lee, U. S. Geological Survey, Tacoma, Wash.—Harold Lockett, care of D. S. P. Co., 1539 McCormick Bldg., Chicago, Ill.—Carl H. Lovejoy, 1260 Mississippi Ave., Pittsburgh, Pa.—R. D. Macafee, Marion, Mass.—Edward F. Merrill, 7245 Bennett Ave., Chicago, Ill.—Charles A. Robb, The Roxborough, Ottawa, Ontario, Canada.—Carroll H. Shaw, Chisholm, Minn.—Henry L. Sherman, Calexico, Cal.—Horace E. Stump, P. O. Box 219, Appleton, Wis.—Martin F. Tiernan, Wallace & Tiernan, 136 Liberty St., New York City.

1911.

ORVILLE B. DENISON, *Sec.*, 63 Sidney Street, Cambridge A, Mass.
HERBERT FRYER, *Asst. Sec.*, 35 Federal Street, Boston, Mass.

Your secretary is punching these notes out on his typewriter on the evening of the day on which war has been declared, and he is therefore wondering, as are countless others today, what may transpire in the interim between now and the publication of this issue of the REVIEW. How many of you '11-ers have noted the coincidences connected with the passage of the war resolutions? According to newspaper reports the roll-call in the Senate was started at *eleven* minutes past *eleven* on the 4th and today, the 6th, President Wilson signed the bill at *eleven* minutes past one. Eleven, Eleven, Eleven—AMERICA!—Passing now to the disclosing of current events particularly concerning 1911, the following announcement received last month by the secretary will please all:

Mr. and Mrs. James Wilson Howell announce the marriage of their daughter, Isabella Grant, to Mr. Charles Phillips Kerr, on Monday, the fifth of March, one thousand nine hundred and seventeen, in Evanston, Illinois.

Hearty congratulations, Phil, on behalf of your classmates. As the feller sez, "May your troubles come singly!"—Ere March passed into the discard another announcement reached the secretary, to wit:

Mrs. Joseph Edgar Russell announces the marriage of her daughter, Elizabeth Sophia, to Mr. Frank Asahel Wood, on Wednesday, the twenty-eighth of March, nineteen hundred and seventeen, Utica, New York.

Hearty congratulations to you also, Frank, on behalf of your classmates. How many 1911 men do you suppose thought you Wood?—Announcement has also been received that Mrs. Jane C. Roath announces the engagement of her niece, Grace Roath Holloway, to Mr. Harry Robert Tisdale. Best wishes, Harry, and may you both go Holloway through life with unbounded happiness. Who was it said that a pun is the lowest form of wit? Ask Frankie Bishop, wherever he is! He ought to know!—Johnny Wilds writes from the Windy City under a January date:

I am in Chicago and am engineer for two of the Factory Mutual's out here. The work is great and in my spare time I take care of my year-old daughter, Anna Elizabeth.

—"Doc" Davis (Lieut. H. C., Jr.) writes under February date from Benicia Arsenal, Benicia, Cal., as follows:

You ask where and what I am. A first lieutenant in the Ordnance Department, U. S. A., stationed as above at present, grinding out work for Uncle Sam. Since seeing you I have been to various places. Came in the service in December, 1911, and have been stationed at Fort Munroe, Va., Fort Moultrie, S. C., Corregidor, P. I., and here. I took the exams for the Ordnance Department while in the Islands and was sent here. Hope to get to Sandy Hook this summer, but of course this German business may change all that.

I am married and have a daughter three and a half years old. Remember me to any of 1911 that you see.

This "German business" has started something now, Doc, sure enough!—Uncle Sam's postal service was called upon to see that another letter from California reached Cambridge in February, this other being from Art Pillsbury, who was on for the Reunion. List to Art:

Had a very good trip home and surely had a grand old time in Boston and in Buffalo, where I spent four days with Vic Willis, '11.

I suppose you are "froze to death," but without stretching it a bit, it is as hot today as any Fourth of July you ever saw.

Business is not very good, but about the same as it has been for the last six months. Hope this finds the boys all happy and prosperous!

Art, you didn't mention anything about that trip of yours to the "jumping-off-place" in an automobile, reference to which was made in an earlier issue of these notes. How come?—Bill Buckley, Course I, who returned to receive his degree with the class of 1912, had in some way been affiliated with that instead of 1911 as he desired. At Reunion time, however, he met the secretary and acquainted him with the facts of the case, coupled with his desire to regain and retain affiliation with 1911, his original class. Accordingly the secretary settled matters with the Alumni Office, and now Bill is once more a full-fledged '11-er. This case is typical for any of you men who either are affiliated with 1911 and desire other class affiliation, or have other affiliation in lieu of your desired 1911 affiliation. If you wish any change, just drop a few lines to the secretary and he will adjust matters with the Alumni Office. Here

are some interesting extracts from a recent letter from the aforementioned Bill Buckley:

Our old friend Skip Harrington, Dennie, is in New York and nobody ever hears from him so he may have kicked in for all I know. Of course Jack Herlihy is now among the unfortunates of this world, Jack having signed that old life contract for the services of a manager to look after him and his affairs for all times. He never can be a holdout; every spring will see Jack departing for the training camp without a whimper, summer will see him plugging along to fatten up the gate receipts, fall may see him in a world's serious, but the extra stipend would avail him nothing, the manager gets it all.

I see Art Leary quite frequently when he's not at plumbers' and steamfitters' picnics. Art wanted to sell me a bathtub, but what's the use of going in for those new-fangled things, Dennie; I don't go much for them.

I often wonder where that little "son-uv-a-gun" Charlie Barker hides out. Suppose he still loves the ladies. If you ever see him, tell him my best wishes to him are for a Happy New Year. That man Fryer is another guy that nobody would ever know where he might be.

Let's see, who else have I seen? Oh, yes! Fitzherbert and I were working together last summer. We hung around the same office twice a day, chewing B. L. gum and smoking old pipes. I have great respect for Fitzie for he is a fair manipulator of tobacco, especially when it comes to substituting it for the Spearmint. You'll note I said we hung around *twice* a day, that means we went out to dinner or luncheon at noon for a couple of hours.

Typical of the kind of letters the secretary welcomes, containing news items coupled, if you choose, with an occasional knock.—Jack Allen is no longer Kink in Alaska—Pardon, that should be J. A. is no longer *at* Kink in Alaska, as may be gleaned from the following from him written last Valentine's Day:

Please continue permanent address as 362½ Park street, Portland, Ore. Am at the University of Washington for a few weeks giving some lectures and taking courses in Spanish, law and flotation.

Quit my job in Alaska and have nothing definite in mind yet. Mining is good and there is no trouble getting a job. The trouble is to pick the best one. Remember me to all the 1911 men you see.

—K. W. Dennett writes from Wahiawa, T. H.:

Still raising pineapples. Hawaii O. K.

No mention of eukaleles, however. Guess they only have those here in the States proper.—Charles A. Magoon, VII, who was connected with our class in the senior year at the 'stute is connected with the Department of Botany of the State College of Washington at Pullman, Wash., as an associate professor of bacteriology.—"Jim" (J. K.) Campbell, I, ended January by writing a short note saying:

Business is picking up these days and we are as busy as cats on a tin roof. Hoping you are the same.

—About the middle of March it was the secretary's great pleasure to bump into Don Stevens in the Trinity Place station of the B. & A. here in Boston. Don looked just the same as ever and was just returning to Akron, via Syracuse, following a short business trip to Boston.—On the 22nd of March a letter reached the secre-

tary at Cambridge from Wm. C. Davis, Jr., I, which had been written and mailed by the latter at Juilly, Seine-et-Marne, France, on the 9th of January. In addition to the original French stamp cancelation, the letter bore the mark of Rio de Janiero under date of February 28. Quite some trip and some time to reach the States. Davis writes:

Knowing you desire to keep "posted" as to changes of address, etc., of the members of 1911, you may record me at the above address, where I have been since last May, first as ambulance driver and then promoted to be in charge of five ambulances (sergeants they call us).

However in the near future I shall return to America, where I shall get back into harness (civil eng.).

Glad to hear from you, Davis. The address referred to in the above note will be found in the list of address changes appended to these notes.—Norman Duffett, X, wrote late in March from Niagara Falls, N. Y., as follows:

When the REVIEW appears, the class notes are the first items that I read. It does seem good to hear what the other fellows are doing. Have often decided to write but the news is not to be found. Am doing operating work in an electrochemical plant, making carbide and ferro-alloys.

Other 1911 men at the Falls are Otis Hutchins at the Carborundum Company; F. P. Ryder and M. Coffin, who make pea-shelling machinery for Chisholm-Scott Company; and W. Flanders at Hooker Electrochemical.

Hope that I get the chance to see you at the meeting of alumni clubs in Cleveland. Give my regards to any of the fellows you may meet prowling around the seat of learning.

Glad to hear from you, Norm.—Ed Vose, XI, has left the Underwriters' Bureau and has accepted a position with Robert A. Boit and Company of Boston.—Herewith is presented a list of men accredited to 1911 by the alumni office, from whom absolutely no word has been received by the secretary since the class graduated from the Institute in June, 1911. Will *you* please look over the list diligently, and if you have the faintest inkling concerning the present whereabouts of even *one* of the list, won't you drop a line to the man you have heard of, whose business address is 63 Sidney street, Cambridge A, Mass. [ED. NOTE. That means "Dennie."] Here is the list of "I ain'tneverwrote": V. L. Ahern, Sarah R. Anderson, Fred R. Bailey, O. R. Bean, Earle R. Brown, S. M. Burroughs, W. R. Cannon, E. J. Carey, Georgianna Charleston, Chushen Chow, A. C. Clavell, M. W. Colebrook, I. L. Corcuera, J. E. Dunphy, R. W. Egan, Lee E. Etting, J. J. A. Gannon, J. H. Gavin, Jr., J. D. Hassett, W. B. Ives, H. P. Joyce, Jas. J. Kennedy, J. D. McNamara, C. B. Magrath, L. M. Merrill, L. E. Monge, J. B. Pierce, Jr., L. R. Rapelli, R. V. Roche, Henry Schreiber, Jr., A. E. Sharkey, Harrison Soule, W. R. Walker, G. B. Wilbur, 2d, W. S. Woods, and Shuichi Yamaguchi. Ever heard from any of them? If so, how many, whither and whence, or might it be said, why!

Address Changes

John T. Arms, Jr., 55 Willow St., Brooklyn, N. Y.—Harold E. Babbitt, 907 W. Oregon St., Urbana, Ill.—Donald C. Bakewell, Duquesne Steel Foundry Co., Arrott Bldg., Pittsburgh, Pa.—Royal M. Barton, Reading Transit & Light Co., 12-16 S. 5th St., Reading, Pa.—J. Burleigh Cheney, 103 Park Ave., New York City.—Paul A. Cushman, 3 Revere St., Jamaica Plain, Mass.—Wm. C. Davis, Jr., American Ambulance Hospital of Paris, Neuilly-sur-Seine, France.—Minot S. Dennett, 304 Lawrence Ave., Detroit, Mich.—Elisha N. Fales, 1016 Nevada St., Urbana, Ill.—David P. Gaillard, 1333 North Ave., Elizabeth, N. J.—Thomas H. Haines, 52 Beaumont St., Dorchester, Mass.—Frederic C. Harrington, care of Davison Sulphur & Phos. Co., Cienfuegos, Cuba.—Isaac Hausman, The Building Products Co., 222 Sycamore St., Toledo, Ohio.—C. R. Johnson, 1508 Preston Ave., Akron, O.—Harold S. Lord, 488 Main St., Athol Mass.—Charles A. Magoon, State College of Washington, Dept. of Botany, Pullman, Wash.—N. Sidney Marston, Mass. Inst. Tech., Cambridge, Mass.—Wm. Hennick Martin, Amer. Tel. & Tel. Co., 195 Broadway, New York City.—Roy G. MacPherson, 15 Bass St., Wollaston, Mass.—Francis A. Moore, Box 180, Tyler, Tex.—S. M. Niles, 49 State St., Lynn, Mass.—William J. Pead, Jr., 24 Harvard St., Lowell, Mass.—Percy A. Rideout, Office of Public Roads, Washington, D. C.—Otto R. Schurig, 28 Queensbury St., Boston, Mass.—Hubert S. Smith, care of Dominion Sugar Co., Chatham, Ontario.—Ralph E. Vining, 149 Kearney Ave., Perth Amboy, N. J.—Walter P. Welch, 525 West Side Ave., Jersey City, N. J.—Noyes Weltmer, Tyrone, N. M.—Peter D. White, 513 N. 7th St., Barberton, Ohio.—Albert O. Wilson, 135 Winsor Ave., Watertown, Mass.

Belated tidings of the initiation ceremonies of two new 1911 members of the I. O. O. B. (the B denoting benedicts *not* boobs) have just reached the secretary and are appended herewith. On the 24th of January, in Manchester, N. H., occurred the wedding of Perley K. Brown and Miss Emilie W. Stevens. The young couple are now at home at 20 Lodge avenue, Manchester, N. H. Congratulations, P. K.!—On the last day of February, in Springfield, Mass., Merton W. Hopkins and Miss Ethel M. Farrington were married. They are now at home at 47 Virginia street, Springfield, Mass. Dat a boy, Hoppy! Best wishes!—Our old friend John McAllen has joined the Engineers Officers Reserve Corps as first lieutenant in Class A. Good work, J. L.—A "later edition" of address changes is also appended to these notes.

John T. Arms, Jr., 55 Willow St., Brooklyn, N. Y.—Walter Arthur, care of John B. Semple Co., Sewickley, Pa.—Charles M. Barker, care of Norton Co., 11 N. Jefferson St., Chicago, Ill.—Donald C. Barton, Box 578, Bartlesville, Okla.—John R. Bowman,

Billerica, Mass.—William N. Drew, University Club, Akron, Ohio.—Joseph C. Fuller, West Avenue, Sewaren, N. J.—Joseph F. Harrington, Neponset St., Canton Junction, Mass.—Pedro de Souza Leao, Rau da Aroe via 40, Maceio Alagoas, Brazil, S. A.—M. J. Lowenberg, 621 Broadway, New York City—Franklin Osborn, 2d, 19 Agassiz St., Cambridge, Mass.—Lester W. Perrin, 463 Whitney Ave., New Haven, Conn.—Clyde R. Perry, care of Westinghouse Co., P. O. Box 4800, Frankford, Philadelphia, Pa.—James C. Rogers, Anniston Ordnance Co., Anniston, Ala.—Abraham Shohan, 94 Harrishof St., Rosbury, Mass.—Henry R. Snyder, 2510 S. Garnet St., Philadelphia, Pa.—Guy W. True, Cristobal, Canal Zone.—Harold Wilbur, Lambertville Public Service Corporation, Lambertville, N. J.

1912.

J. E. WHITTLESEY, Sec., 10 Regent Street, W. Newton, Mass.

I was talking with Kebbon the other day and suggested we have another class dinner to renew the reunion fellowship. Keb suggested that with the high cost of eating nowadays that it would cost so much that no one would come. However that may be, these certainly are strenuous times and so intense that the easygoing class spirit is overwhelmed by serious events taking place on every hand. But to forget and ramble through the recent vicissitudes of 1912.

V. V. Ballard writes from Billings, Mont.

The last address I had of Capt. H. R. L. Fox, R. E., The Briars, Old London Rd., Hastings, Sussex, England. Harry went over with the first contingent early in the war. Married an English girl after he had been in England a short time. He is in the engineers. He wrote me some time ago that he had charge of some railroad yards at the front. "Not much engineering but plenty of work."

He was second lieutenant when he started but is now a captain. I have not heard from him since October. He may be dead now.

I have been on valuation work since early in 1914, with the government till last July and since with the C. B. & Q. R. R. with address as noted below. Most of the time in Wyoming and Montana on pre-inventory work, and now pilot on one of the government yachts. Managed to get back to Boston for a week this Christmas, first visit since I left. Found the New Tech quite up to expectations both inside and out. But what struck me most was the atmosphere of the place. It is cold and repellent as compared with Harvard and others of the old New England colleges and schools, whose red brick and ivy and elms seems to welcome one. Did that phase of it ever strike you, or am I over critical? Met Kebbon for a minute and was surprised that he remembered me.

You may have heard that Thurlough Morse's wife died a year after they were married, and a year ago he married again. He is at present transit man on the Santa Fe, out of Marcelline, Mo.

The Providence *Journal* gets in its melodramatic touch:

Mr. and Mrs. Roger Barton Stone, whose marriage took place in Richmond, Va., on December 22, are now at Palm Beach, Fla., on their wedding journey. Mrs. Stone was formerly Miss Inez Anna Lindskog, daughter of Mr. and Mrs. Ellis Lindskog of Central Falls, and Mr. Stone is a graduate of the Massachusetts Institute of Technology in 1912.

Topsfield to the foreground:

Mrs. Henrietta Fay Churchill of Beacon street announces the engagement of her daughter, Louise Fay, to William Henry Baxter of Syracuse, N. Y. Miss Churchill is the daughter of the late John P. S. Churchill of Milton. Mr. Baxter is a Tech '12 man and the son of Dr. and Mrs. William E. Baxter of Topsfield. No date has been set for the wedding.

I had a note from Bill Lange but am sorry to say he could find nothing doing in New York.

Stalker E. Reed of Mexico;—Even Villa himself can't be found at that address.

The engagement of Miss C. Evelyn Cobb, daughter of Mr. and Mrs. Elmer Cobb of Angell avenue, to Stalker Reed of Mexico was announced Wednesday evening at a charmingly informal party given in her honor by Miss Margaret Cole at her home on Pine street.

Miss Cobb is a graduate of S. P. H. S. and of Nasson Institute where she now teaches. Mr. Reed is a graduate of Massachusetts Institute of Technology and a mining engineer in Mexico.

The evening was passed in a social manner. The Christmas colors were used in the dining room where a delicious luncheon was served.

The engagement was made known when each young lady drew a red ribbon which led from her plate to the centerpiece and was attached to a card bearing the names of the young couple.

Kebbon has a few encounters as follows:

I was delighted to have a visit from Bill Lynch who is in the East for a short stay from the Pacific coast. He is planning to attend a railroad convention in Chicago the latter part of the month and is interested in producing a kind of "anti-creeping" device for use on steel rails to hold them rigidly in place. He lives in Oakland, a beautiful suburb of San Francisco, and is most enthusiastic about the Pacific coast. He gave some interesting news of himself and of other classmates which I shall try to pass on to the class although shorn of Bill's inimitable description and drollery in telling anecdotes. Bill went to Chicago for eight months after graduation and praises the Tech nineteen twelve men there. He associated with Babcock, Tomlinson and Zip Bent at many festive occasions. In telling about Zip, Bill says, "He went into a bar with us and was served a new cocktail, the ingredients of which he analyzed so accurately, after one taste, that the bartender was overcome with astonishment and admiration." Bill has frequented Salt Lake City likewise and due to meeting Colvin there on one trip, was urged to don a dress suit and enter the social whirl. Colvin's father is president of the Grand Trunk. Now he can't get within a thousand miles of Salt Lake without dropping off for a visit. John Selfridge is there and the story goes that he gets a salary boost every time he generates sufficient courage to ask for it. Bill told of other men but I regret that I did not take notes.

In Boston one day I ran into Linzee Hooper who too is building submarines and is at present trying to locate materials which are necessary for their construction. He was passing through Boston on a flying trip from Montreal to New York—and is as hale and hearty as ever.

Pete Dawson, after escaping captivity as a German spy and serving his time at the border last fall, is now chemist for the Warren Manufacturing Company, Milford, N. J.—An interesting clipping from Professor Locke's letters:

I am in receipt of a letter from Mr. John L. Bray who has been for three years with the Braden Copper Company in Chile. His contract expired in November and he has left to return to the United States, having planned a trip as follows:

He will go by rail over the mountains to Buenos Aires, spending a week between there and Montevideo from whence he plans to take a P. S. N. C. steamer up the coast to Santos spending a few days there. Thence by railroad to Rio. This railroad passes through the heart of the coffee district and Mr. Bray has planned his trip so that he will have ample time to make stops along the road which he has been told is a very beautiful one. At Rio he will take a Lamport & Holt steamer and go on up to Bahia. He will wait at Bahia for the next Lamport & Holt steamer, and will have ample time to make some trips up into the country. From Bahia he will go to Barbados and Trinidad and thence to New York. He is looking forward to a very fine trip and expects to arrive in New York about the first of February.

During his three years he has obtained a great deal of valuable experience, having been on shift in the crusher, regrinding mill and oil flotation plant; foreman of the filter press plant, and having spent eight months on experimental work, four of these on special work for Mr. Guess in connection with the 10,000 ton extension. During the last six months he has been night assistant superintendent of the concentrator.

Van Syckel has enclosed an interesting clipping from a letter of Harold Davis:

Last Monday Loring ('09) went out prospecting on the southeast claims of our group and his dog found a bear asleep in a hollow tree. He beat it back to the office for myself and a young fellow that is timekeeper here and the guns. I took the 38-55 and we went about a mile and a half to the place. The bear refused to get out so I volunteered to poke it out while the others shot.

I dug away the half frozen earth and moss at the back of the tree, then poked, but no signs of life. Finally I pounded on the hollow tree and old Mrs. Bear decided to stick her head out and see how the day looked to her. As she stuck up her head Sandell (the timekeeper) yelled, "I am going to shoot," which he did, and the poor simp missed her clean. Here is a diagram of the different positions.

(Diagram deleted by censor.)

Then the firing started—it put the cannonade on the Somme in the shade. I couldn't fire at all on account of Sandell being in the way, but after about ten shots they finally dropped her in the position marked "first bear." Sandell moved up to the place marked "second" when a young cub started right for him. It was nearly on him when I shot and killed it so it fell on his feet. It was a fairly good shot and I feel rather proud of it.

I was walking toward this bear and was just across from the hole, ejecting the shell from the gun when I heard a growl near my feet and a third one was just clambering out of the hole. My heart and nearly all my other organs came up in my throat, but I managed to put the gun almost in its face and fired. The bear fell back dead in the hole. Result—one 200-lb. female, and two cubs about 75 lbs. apiece. I packed one of the cubs back on my shoulders and was mighty tired when I got in, believe me. As you can readily imagine, there was some excitement for awhile, and I wish we could repeat it often but things like that only occur about once every five years.

1913.

F. D. MURDOCK, *Sec.*, 605 Bird Avenue, Buffalo, N. Y.

A. W. KENNEY, *Asst. Sec.*, M. I. T., Cambridge, Mass.

The most brilliant event of 1913's social season took place on March 10, the date of the annual banquet. Boston's finest young men gathered at the Hotel Brunswick (above the chapel) to celebrate the fame of THE LIVE CLASS; and although the attendance had dwindled to thirty men, the smallest number at our annual banquets, the dinner was one of the most enjoyable we have had. Most of

this success was due to the geniality of our guest, Mr. Sands; and in large part also to the hotel management. The long-distance men were Roger Freeman, who was on from Providence, and Jack Rankin, the famous New York singer, whose early departure was all that prevented our enjoying his remarkable talent. The official at the head of the table was Fred Hersom, VI, partly concealed behind one of the cigars which Bill Mattson picked out for the delectation of the class. His stories about the thirsty Scot and the value of class spirit as exemplified by the married life of Al Higgins started the ball rolling. Mr. Sands, the vice-president of the Geo. H. Tenney Company, engineers, was introduced as the speaker of the evening; and after a few good stories he spoke briefly of some of the struggles that he had had on the road to success, which seemed especially significant to him. His talk appealed to the men and a hearty vote of thanks was passed followed by a "Regular M. I. T. with three Sands on the end." It was suggested that if there was any business before the class it would be in order; but since there seemed to be no excuse for raising any taxes, and since any vote for officers would be sure to result in Bill Mattson's election, the business was waived and the meeting officially broke up. Some of the men visited the chapel, and some were able to get invited to a dance which was in the next room to ours. Pa Ready talked over his little mechanical dog, which answers to a whistle, several of the men tried to beat Mr. Sands at telling stories, Buttsy Bryant had to meet a girl down town, and so the crowd gradually broke up. There were a number of inquiries as to whether any more dinners would be held this year; and since the idea is so popular it seems we ought to be successful.

It was a surprise to learn that Bakeman, XI, who was with the Red Cross in Serbia and the Balkans at the first of the war is now in Russia doing health work on the German front. He certainly will have a great deal to tell us when he gets back to this country after the war.—Christie, I, has been in Washington, D. C., since last fall; though his card didn't say what work he is doing there.—One old-timer found his way back to the 'Stute again last month. Louis Walsh, X, came out from the wilds of Maine, where he is foreman in a paper factory, to refresh himself with the culture of Boston. Maine hasn't changed him, though; he's the same old Louis, cheerful as ever.—Yet another famous personage visited the Hub last month, the famous pugilist whom the class wished on itself as permanent secretary. Of him, however, the less said the better.

Turning to more agreeable subjects, we note with pleasure the marriage of Miss Marion M. Thomas of Easton, Pa., to Clint Pearce, II, who is now living in Manhattan, Kansas. Congratulations and best wishes, Clint.—Kenneth Scott, I, was married to Miss Lucy Barnett, of Duluth, Minn.—George Philip Capen and Miss Florence Reeve were married at Montclair, N. J.,

on April 18.—The wedding of Charles H. Hopkins and Miss Louise Smith took place in Los Angeles, Cal., in March.—Prescott Kelly, I, has a small daughter born February 25, 1917.—The *Cleveland News* prints the photograph of a very attractive young lady, with the statement that she, Miss Dorothy Kyle, is engaged to our Clarence Berry, VI.—Allen Brewer, III, a public utility engineer for the state of New Jersey, had an article in the April issue of *Industrial Management* (The Engineering Magazine) on the application of "Straight Line Depreciation." Allen is a busy man, drilling for the Officers Reserve Corps.—Charles Edison, IX, was operated on February 29, for a serious case of appendicitis. He has been associated with his distinguished father, as principal assistant. We had no news of the result of the operation, but Edison was a clean-cut chap and that counts a lot.—The *Engineering Record* announces the establishment in Cleveland of a new firm of contracting engineers, Alger and Kraus. Alger, I, has been resident engineer for the New York Continental Jewell Filtration Company. He recently completed a plant for the Good-year Tire and Rubber Company at Akron, Ohio.—William S. Gilmore, IV, who before the war was in the real estate business in Florence, Italy, writes the following on a post card dated February 12, 1917:

We are now in the war zone. I am glad to say that I am finally a member of the French Army, feeding on the poilu's rations and sleeping on straw, which really is not at all uncomfortable.

Address Changes

J. E. Adler, 2147 Highland Ave., Birmingham, Ala.—R. T. Alger, 1969 E. 81st St., Cleveland, Ohio.—D. F. Baker, Alan Wood Iron & Steel Co., Swedeland, Pa.—G. R. Bartlett, 22 Lyndhurst St., Dorchester Centre, Mass.—W. S. Boynton, 316 Huntington Ave., Boston.—E. M. Bridge, Boyd Park Ter., Newton, Mass.—A. A. Brooks, 94 Chester Ave., Chelsea, Mass.—P. V. Burt, 95 Messenger St., Canton, Mass.—W. E. Caldwell, care of Carborundum Co., Niagara Falls, N. Y.—A. H. Clark, 407 Hawthorne Ave., Williamsport, Pa.—G. H. Clark, 249 Melrose St., Melrose Highlands, Mass.—R. G. Daggett, Linde Air Products Co., 42d St. Bldg., New York, N. Y.—S. H. Davis, Box 1341, Hartford, Conn.—J. A. Gaun, 339 S. Ashland Ave., La Grange, Ill.—D. H. Gillingham, 34 Walnut St., Fairhaven, Mass.—A. H. Means, Eden Mining Co., Bluefields, Nicaragua, Central America.—K. D. Hamilton, 11 Cushing Ave., Campello, Mass.—J. A. Oppenheim, 14 Bellingham Ave., Everett, Mass.—A. L. Pashek, 104 Front St., Berea, Ohio.—C. E. Pearce, care of Kansas State Agricultural College, Manhattan, Kansas.—G. H. Robb, 20 Lynde St., Salem, Mass.—S. E. Rogers, 36 Barnard Ave., Watertown, Mass.—G. B. Sampson, 22 Main St., New Britain, Conn.—S. D. Shinkle, 207 W. Collins St., Oxford, Ohio.—A. W. Spicer, 612 W.

115th St., New York.—J. J. Strachan, 359 St. Johns Pl., Brooklyn, N. Y.—A. L. Townsend, 1870 Conn. Ave., Brighton, Mass.—R. J. Tullar, 616 Blackburn Ave., Sewickley, Pa.—J. V. Walsh, 28 Cleveland Ave., Everett, Mass.—F. B. Williams, 20 Burr St., Jamaica Plain, Mass.—L. E. Wright, 28 Duane St., La Salle, N. Y.—R. K. Wright, Ridley Pk., Pa.

1914.

C. J. CALLAHAN, *Sec.*, 14 Prospect Street, Lawrence, Mass.
ELMER E. DAWSON, JR., *Asst. Sec.*, 28 Washington Avenue, Winthrop, Mass.

The annual class dinner was held on Saturday evening, March 24, in the Dutch room of the Copley Square hotel. Twenty-five men sat down and reminded each other of that memorable class dinner in the same hotel in June 1914. As a matter of precaution, many of the missiles which were at hand in 1914, were eliminated from our 1917 dinner.

The class was especially fortunate in having for its speaker "Ike" Litchfield, '85, who told us many things about the preparedness plans which the mobilization committee had formulated. With so much war talk in the air, his talk was especially appropriate.

As an extra feature of the dinner, a "loving cup" was given to the man who had made the greatest sacrifice to get to Boston for the occasion. The lucky boy was Roy Parsell, II, who came up from New Haven. M. B. Lewis, VI, also came up from New Haven but Parsell won out on tossing the coin. Possibly it should be fitting to describe the "cup" at this time, but your secretary cannot find words in his polite English vocabulary to give properly this description, so he asks all who are interested to write to Parsell. After the latter becomes sufficiently acquainted with, and properly acclimated to his "loving cup," he will, no doubt, be able to properly describe it.

After the eats, a bowling match was staged at the old Trinity Court alleys. Courses I and XI challenged all comers, and successfully held their own against the combined onslaughts of all other courses. At least the scores would indicate that such was the result, although there were rumors of arithmetical errors in the tabulation of the winners' score. As your secretary was score keeper, he cannot very well commit himself on this point.

Our old friend "Pa" Coburn came on from New York and added his usual fund of stories to the entertainment.

Those present were: Fiske, II, Snow, I, Dawson, II, Parsell, II, Blakeley, II, Crowell, X, Harper, IV, Walsh, I, Bryant, XI, Dixon, XI, Van Etten, I, Lewis, VI, Bowler, XI, Zecha, VI, Shaw, VI, Woodward, II, Maxim, II, Richmond, VI, Judge, VI, Crocker, XIV, Wilkins, XIV, Conklin, VIII, and Callahan, XI.

In connection with the dinner, it should be explained that your

secretary had some doubts as to what the fellows wanted for a dinner, and so he sent out a number of returnable post cards upon which were a number of questions to be answered by the members of the class. As an inducement for all who received cards to return them without delay, your secretary stated on each card that all who failed to return their cards would be accused of theft. The following letter shows how hard it hit "Peb" Stone, I:

With much fear and trembling, I take my pen in hand to plead not guilty to the charge of theft of one postal card from the class of 1914. My whole defense is based on the fact that the card did not come to hand until two days after the expiration of your time limit; so I am returning same *at once*, and throw myself upon the mercy of the court and beg a fair trial and lenience. So have a heart, "Cal," and take mercy on a poor wayfarer who can't get up to Boston and eat, drink, and be merry with the glorious class of 1914.

Extend my salutations and greetings to the bunch, and here's hoping you succeed in turning out a good crowd.

Our little heart is touched, Peb. Forgiveness is yours. Go your way and sin no more.

The following letter from Atwood, XIV, makes us wish that others of the class would become "conscience stricken." Writing class news would be a cinch then:

Conscience stricken? Yes, I surely am. It has been recently occurring to me with ever increasing force that I owe you something. I was one of those who last June very enthusiastically thrust on you a rather thankless job and pledged myself to aid in that task. I have just had forwarded to me the past issues of the REVIEW and can appreciate the pleasure news of the classes can give one. So following is the record of my experiences since June last.

I first took a month's holiday in the White Mountains. Then I came to Thorold as research engineer for the Exolon Company. Hell has no fears or possibilities with which to frighten me. The combination of a hot summer and research work with the highest temperature electric furnaces has rendered me completely immune to heat. Frequent gassings due to unrestrained curiosity have quite fitted me for modern trench warfare. But having well learned at Tech that knowledge requires some sacrifice, one can forget his physical being when on an interesting problem, and I can suggest nothing more fascinating than the chemical and engineering problems of high temperature. Life is not all hard work, however. I spent four days at the Chemical Society meeting and Show in New York last fall. The number of Tech professors there and of Tech men made it seem like a reunion. You may be interested that Ross Dickson, now at Detroit with the Semet-Solvay Company, Schneider, X, now with the Solvay Process Company, Syracuse, and other '14 men were present.

Thorold is a very small town and not what one would call cultured. However, we are doubling our plant and the engineer in charge of construction is a mighty interesting Harvard man. So the two of us live quite nicely together. Tom Guething's brother Cy has been on a Westinghouse C K job near here and that has given me some Tech contact. At Niagara Falls, one station of the new Chemical Engineering department is in full swing and on the staff are such delightful fellows as Dr. Wescott, M. S. '14, Ph. D. '16, Ray Brown and Schabacker of last year's class. We hope to get together some sort of a group which will make it interesting for the students coming to the Falls.

I was in Boston recently but had no chance to do any visiting. Leaving there I spent four weeks in the southern states on an engineering prospect, returning by way of Cincinnati.

Quite recently I had the pleasure of assisting in the presentation and exhibition, before the Institute of Mining Engineers in New York, of a new process for colored

motion pictures. Dr. Kalmus and Dr. Comstock of the Tech Physics department are the inventors and promoters.

Have you received notice of Louis Wilson's, XIV, engagement? I can't state whether he is yet married. J. Warren Horton, XIV, married last fall and is now living at 559 W. 191st street, New York. He is in the research lab of the Western Electric. G. G. Maier, XIV, is another who has been attracted to New York. He is in the research lab of the Phelps, Dodge Company and is living at 32 W. Gouverneur street, Rutherford, N. J.

This is about the only news I can give you in regard to our Course XIV bunch. I would surely like to hear from the rest.

"Arlo" Bates, XI, has at last been heard from. He writes as follows:

Congratulations to our new secretary. How goes things in Boston? Have run into a lot of Institute men here in Pittsburgh but no '14 men so far. I believe, though, that Duff is located in town here somewhere. This is a live business town believe me, ever since I came out here last August we have had all the work we could handle and then some. Mostly water supply and valuation water works. We have landed a job for the city of Lawrence and one of our men leaves Tuesday for Boston to start things. Wish I might go with him and get a chance to look over the crowd again. I saw Bryant when I was on at Christmas but I only had a couple of days, so didn't get around much. Do you know where Fox is now? I haven't heard for over three months, and I wondered if he had got back to the U. S. soil yet. How does it happen that you haven't followed in the footsteps of your predecessor in office before now? About every number of the REVIEW that comes I see some of the fellows have joined the married men's club. Before I forget it, my address is Hill Top Y. M. C. A., Mt. Oliver Station, Pittsburgh, Pa. Now don't you forget it and let me hear from you once in awhile. I will try and be more neighborly from now on. Remember me to any of the fellows you may see.

Marriages—Yes, we still have them. First the Perley scoop which you have all been waiting for. Here it is:

On Wednesday evening, March 7, at half past seven, Miss Ruth Adelaide Richmond, daughter of Mr. and Mrs. Benjamin Richmond of 12 George street, and grand daughter of the late Rev. John Bours Richmond, became the bride of George Kimball Perley, Tech '14, son of Mr. and Mrs. Isaac S. C. Perley of Rowley.

The ceremony took place at the home of the bride, Rev. Dwight W. Hadley, rector of Grace Episcopal Church, officiating and using the double ring service. Harold Bours Richmond, Tech '14, a brother of the bride, was best man, and her sister, Miss Pauline Richmond, attended her as maid of honor. Miss Louise P. Taylor and Miss Gertrude E. Miller of Winsted, Conn., were the bridesmaids. The ushers were Charles Hugh Chatfield, Tech '14, Maurice W. Dennison of Boston and Theodore Carl Richmond, brother of the bride.

The bride's gown was of ivory joffre satin trimmed with silver lace, with court train, and veil caught with orange blossoms. She carried a shower bouquet of white roses and valley lilies. The maid of honor wore pink tulle and carried pink sweet peas. The bridesmaids' dresses were of coral satin with silver trimmings, and they carried large flat bouquets of pansies. Festoons of southern smilax were arranged about the rooms and the mantels were banked with Lawson pinks and yellow jonquils. As the bridal couple entered, the wedding march from Lohengrin was played by Misses Ruth and Ruby Randall.

Following the wedding ceremony, a largely attended reception was held when Mr. and Mrs. Perley were assisted in receiving by their parents. They were the recipients of many handsome presents.

The groom presented the best man and ushers with gold cuff links, and the bride's presents to her attendants were pearl pins.

During the evening the Lafircain Trio furnished music, and Mrs. Grace Caulkins Graustein sang several selections.

Miss Richmond comes of old Puritan stock, tracing her descent, directly from John and Priscilla Alden, and Isaac Allerton. The newly-wedded pair, upon their return from their honeymoon, will reside at 47 Cottage street, Norwood, where they will be at home after April 1.

For this, thanks are due H. B. Richmond, VI, and the Medford (Mass.) *Messenger*.

Mr. and Mrs. F. H. Sanborn of Everett, Mass., announce the marriage of their daughter, Mary Lucy, to Alfred William Devine, II. Mr. and Mrs. Devine will be home after July 1 at Allerton, Mass.

Mr. and Mrs. John Hogan of Malden announce the marriage of their daughter, Marie Gertrude, to Robert Trumbull Gookin, V. Gookin is now with the State Board of Health at Savannah, Georgia, and extends a cordial invitation to all '14 men to visit him whenever they are in Georgia. He promises to convince even the most skeptical that single blessedness is all wrong. Your secretary is now looking up trains for Savannah.

Address Changes

H. H. Ambler, 982 Waterloo St., Detroit, Mich.—Nathaniel E. Brooks, Room 1412, 165 Broadway, New York City.—Benj. C. Cromwell, care of Dominion Copper Products Co., Lachine Locks, Quebec, Canada.—Thorn Dickinson, Calhoun, Lowndes County, Ala.—Chas. G. Fallon, 31 Burroughs St., Jamaica Plain.—Chas. E. Fox, care of American Red Cross, Washington, D. C.—A. G. Long, Jr., 16th and Marshall Sts., Portland, Ore.—Malcom C. MacKenzie, care of Mass. Inst. Tech.—Leon F. Marsh, 53 Pequosseth St., Watertown, Mass.—Earl M. Newlin, 1412 Pine St., Philadelphia, Pa.—Robert Parsons, 518 E. 20th St., New York City.—C. B. Rogers, 3309 Powelton Ave., Philadelphia, Pa.—Lt. Chauncy F. Ruoff, 5th Field Artillery, Fort Bliss, Texas.—R. D. Salisbury, 1241 Winnemac Ave., Chicago, Ill.—Merrill J. Smith, 147 Milk St., care of Stone & Webster, Boston.—Seymour J. Spitz, care Newport Chemical Works, 120 Broadway, New York City.—Fred A. Stillman, Mining Dept., Mass. Inst. Tech.

1915.

WILLIAM BENJ. SPENCER, *Sec.-Treas.*, 544 No. Grove Street, East Orange, N. J.

FRANCIS P. SCULLY, *Asst. Sec.-Treas.*, 5 Exeter Park, Cambridge, Mass.

Our country has, with the best of intentions for all, long avoided the war which now has been thrust upon us. We are lined up with the Allies against the Central Powers of Europe to fight for the issues of democracy and liberty against militarism and absolute monarchy. The part which the United States is to take and what each of us must do to bring victory is rapidly being pointed

out. To us of the M. I. T. and 1915, there are especial duties for our efforts. Because of our training and the characteristics we gained at Tech, more will be expected of us than some others who have not had our privileges. Whatever our country may ask, let each man of 1915 respond with an enthusiasm that will show the stuff of which we are made.

To all who may go to the front the deepest feeling of your classmates goes with you. We hope that God will favor you as you offer the greatest sacrifice a man can give. And may those who remain behind not forget that the strongest efforts at home may save a brother or classmate at the front.

An interesting story comes to us from the cold North, of the struggles of men and beasts not at war, but in healthy and thrilling sport. Fred Hartman, who went to Canada for his health, was a contestant in the big dog race of the north, from Winnipeg, Canada, to St. Paul, Minn., a distance of 525 miles.

The race took place during last February when the thermometer was chilled to 35° below zero. The trail which followed the railroad tracks when the drifts were too high was exceedingly picturesque in its snowy whiteness. The dogs made seven to eight miles an hour, averaging sixty-five to seventy-five miles a day. The team drivers loped behind their sled, jumping on when the snow crust was too thin to sustain a man's weight or when they came to a slope.

Every precaution was taken to make the dogs "fit," each night their feet were examined and any bits of ice cleaned away. They were protected by deerskin booties. Mouths were examined and cleaned, and their food consisted of five fish a day. They lapped snow instead of drinking water in order that they would not get "logged." On the trail the dogs were very docile but when out of harness were vicious. Their sagacity and the endurance of the men was only short of marvelous.

On the border of Minnesota, 17½ inches of snow fell in eight hours, blinding the men and the dogs.

As the end of the race drew near great excitement marked the towns where the racers passed. The contest had narrowed down to five teams and although Albert Campbell, a Cree Indian, won the race, popular favor was with Fred Hartman. He entered the race with a mediocre team and would have finished first had not his lead dog died on the trail and the Indians been tipped off that he was leaving one post near the finish at one o'clock instead of four. He was the hero at the finish; purses were made up, and if he enters next year, with the twenty-five teams already signed up, he will be looked upon as one of the pluckiest drivers in the squad.

It is interesting to note that in Canada, civilians are approached on the street and asked why they are not in the army. If the excuse is not satisfactory, a miniature petticoat is pinned on their lapel. Thirty thousand men have left Winnipeg for the army.

A card from Loring Hall says that he has been transferred by the S. O. Co. to Hankow. He said it was mighty nice there now but that in summer it was too hot even for satan.

Cupid continues to reap the benefits of his work during the years that the class of 1915 spent at the Institute. A story in the *San Francisco Chronicle* tells that Mr. and Mrs. Herbert N. Turrell, Jr., are being extensively entertained about San Francisco on their honeymoon. They were married in Boston on March 10. Mrs. Turrell was Miss Emily Nichols of Boston, and a direct descendant of one of the Mayflower settlers. Mr. and Mrs. Turrell will make their permanent home in Seattle where Herbert is engaged in business.—Bill Spencer has become a benedict and is living in East Orange, N. J. He married Miss Ethel O. Price of Medford on March 1. Tom Huff was best man and among the ushers were Jack Dalton and Pop Wood. Be sure to note the new address, 544 North Grove Street, East Orange, N. J., where all class correspondence should be addressed. The secretary is at home now and will welcome a call from any 1915 men who may come his way. The secretary realizes that owing to his recent busy times of home-making, a number of letters are yet to be answered, but he assures all that just as soon as his garden seeds are sprouted he will remedy the matter.—The engagement of Nelson Stone of Syracuse, N. Y., and Miss Marion Heermanis is announced.—T. G. Brown, of West Roxbury, Mass., is engaged to Miss Irene H. Phinney of West Roxbury. He is now connected with a Boston insurance office.—The word comes to us that Ira Sibley Lewis was married to Miss Nettie Congdon, during the winter; also that Charles Calderara was married to Miss Olia Bowne of Eastport, Me.

At the present rate the benedicts of 1915 will soon outnumber the bachelors. We wish all of the newlyweds a very happy and successful future.

Charlie Fry is working for the Public Service Company of New Jersey, and is living in East Orange.—Bud Thomas writes of his work in a factory making farming machines, implements, and tools:

I am endeavoring to keep up the reputation of the class. My work is in connection with the staff organization of the factory. If you ever took Park's course in industrial management you would know what that means. It has to do with the cost reduction, efficiency, welfare work, and improvements in methods. It is very interesting work, and leads all around Robin Hood's barn and back.

I enjoyed a twenty-four hours' visit from Henry Leeb during October and gleaned a little news from him.

I don't see much prospect of getting back to Beantown this year but you never can tell.

George Urquhart is in Syracuse, N. Y., working at the Semet-Solway Company. He says that his work in the sales department is very interesting.

1916.

JAMES MORRISON EVANS, *Sec.*, 17 Gramercy Park, New York, N. Y.

DONALD BLAKE WEBSTER, *Asst. Sec.*, 18 Clarendon Street, Malden, Mass.

The response to the letter sent to the members of the class during the middle of March has been so overwhelming, that it has become quite a difficult matter for the individuals on the governing board to hold down their miserable jobs in the world at large, and be the faithful servants of the class at the same time. All doubt as to the existence of "pep and loyalty" is vanished, and the task of relegating recalcitrants to the boneyard of the excessively defunct is the easiest one that the secretaries have struck yet. Particularly gratifying and complimentary to the class are the replies from graduates of other colleges who spent a year or two with us at the 'Stute, and who have not only expressed willingness, but pleasure as well, at being permitted to divide their loyalty between their alma mater and ours.

Business in correspondence has been so brisk, that there has been but little time to "dope up" details for various dinners throughout the winter, and for our first reunion which occurs this June. The latter will be announced with full particulars in the course of a month or so, and it is probable that it will be in the vicinity of Boston, with the indomitable "Rusty" as the representative in charge. Make your plans accordingly.

With over eight hundred class letters sent out and being replied to, it is quite evident that the governing board put its foot in deeply when it announced that all personal letters would receive personal replies. The pledge will be lived up to, though it must be a slowly discharged obligation at the best.

If you have not returned your "dope sheet," please do so at once. The expense of sending class letters to every address in the list in the July 1916 REVIEW is so great, that we are forced to consider our mailing list determined by the replies to our March letter.

The first few are from a letter forwarded to us by Charlie McCarty:

With the assistance of some clever detective work on the part of one of our staff, we have solved one of the deepest and most baffling mysteries which have ever confronted us. We were surprised and alarmed at the silence of the founder of our organization, who never responded to our appeals for information. The following announcement which we have uncovered shows that modesty must have prevented his writing:

"The undersigned beg to announce that they have formed a corporation under the name of Thompson and Binger, Inc., Engineers and Contractors.

They will engage in the design and construction of plain and reinforced concrete structures of all types.

Well fellows, I guess we must all take our hats off to Walt, and he certainly has our sincerest best wishes for his success. I hope it will not be long before I can send

equally good news about some more of the Highway Option crew. Come on boys, we've got to hump right along if we are to keep up the pace that Bing has set for us.—Jack Burbank has transferred his attentions from the Phoenix Bridge Company to the bridge department of the Maine Central Railroad, where he is engaged in designing, drafting, and the investigation of the strength of existing structures under the increasing loads. After tossing off a few simple jobs as a 105 foot plate girder and some plate girder turntables, he is stacking up against a real job, namely an investigation of the live load stresses in a 238 foot draw span with two center bearings. Jack thinks the job is fine, but his parting word to the boys is to tell them to keep away from Portland now as it is 30° below zero every morning and the town is bone dry.—We will now devote a few lines to the "Rise of Ikie Kleinert." According to our staff reporter, "Ikie" started in last summer with the New England Structural Steel Company as a laborer at a salary too insignificant to mention. He worked a dozen or more hours per day when he started in, but is now rightfully holding down a job as assistant to the general shop manager. It just goes to show that they can't keep a Tech man down.—Dame Rumor has it that Al Lieber has a "tracer" working for him. Sounds rather suspicious to say the least.

Of the men that started with Westinghouse Church Kerr & Company, only three remain, namely, Abe Reeve, Jim Ralston and Gira Crowell.—Jim Uhlinger and George Petit have gone with the Turner Construction Company.—Moose Jewett has become an efficiency engineer for the Buffalo Drop Forging Company of Buffalo, N. Y.—Bob Crosby is with the Boston Edison Company.—Speed Austin is with the Freeport Sulphur Company in Freeport, Texas.—Cy Guething and Jim Evans are doing efficiency work for the Hyatt Roller Bearing Company in Newark, N. J.—Raeff Alfaro is working in the bridge department of the New York Central. Just at present he is designing a new structure for the railroad in the vicinity of Boston. We have heard that he has received some assistance in this Boston project from Nelson MacRae. Mac, by the way, is now down South assisting his father in his engineering business.—Lukey Lucas is training for the engineers corps of the Pennsylvania R. R. He is located anywhere you happen to run across him in Ohio.

We also have news of the other brawny son of the golden west namely Roswell Miller "Fat" Rennie. He is training for his wrestling matches by heaving large crucibles about the plant of the Scovill Manufacturing Company of Waterbury, Conn. His intended course at the University of California was too easy and was abandoned before November.

Lev Lawrason has unearthed himself and has sent us the following letter. We report all of it because it is of interest to all 1916 men who know Lev. He is working for the Mercedita Sugar Company in Cabañas, Cuba:

Since I saw you last I have become a chemist, and as I work with two six foot four men, they call me "little chemist." Of course I am not as low as a Course X or V man, because my knowledge is limited to sugar work only.

Starting in I naturally got the worst hours having to work from 3 a. m. to 12 noon. These hours sound pretty bad in the States but they really are very pleasant down here where night is the same as day.

We have been praying for a little excitement in the way of a revolution at Mercedita, but they are too busy chasing the dollar here to fight; however, there has

been a good deal over in the mountains, a place I have avoided altogether. The real beauty about this revolution is that it keeps you from sending money away and thereby puts off the payment of my class dues and other debts of greater magnitude to a later date.

Havana is only forty miles away, but fortunately we cannot get there very often. My last visit there was most interesting and eventful. We missed the last train out and slept in the park on a bench. This is really quite pleasant in Cuba for it is never cold at night as it is in the Boston parks, and besides it is not considered bad form by the Havana cops.

I could have written this in Spanish, but you will excuse me this time.

Hovey and Jack Freeman are, with their father and two other past presidents of the A. I. M. E., making a tour of China, Australia, Hawaii and the Fiji Islands. Dame Rumor has it that Hovey has acquired the languid temperament of the Pacific Islands and his avoirdupois has received quite an appreciable increase in net weight.

A number of the men manage to visit the Tech club on and off during the week. Those seen about the city and club are Alex Halberstadt, Jack Stafford, Bill Shakespeare, Mark Lemmon, P. N. Brooks, Ralph Millis, Bruce Stimets, Cy Guething, Jack McDevitt, Raef Alfaro, N. MacRae, Paul Buxton, Gira Crowell, Jim Uhlinger and Frank Ross.

Now for later news. We'll commence with a blithe epistle from one William Lee Graves, known as "Gravy" but who insists that his bona fide nickname is "Phat." After ending the list of his show and athletic activities with the all inclusive phrase, "Other nocturnal activities too numerous to mention," Phat imposes the following:

Since leaving the 'Stute, I have been very prolific in my business and social career. After receiving my walking papers from Walt Humphreys in June 1915, at the end of my junior year, I proceeded to break the sad news to the family, whereupon we immediately set out for the wilds of New Hampshire to rest my weary brain. I wasted the summer in Portsmouth and North Scituate, and toured the New England States under the acute espionage of my fond parents. Having decided that I had sufficiently recuperated by the middle of October, I took it upon myself to secure a position worthy of my ability as a firee of the Institute. After numerous failures and vain efforts, Professor Jackson was kind enough to get me a job, or I should say, a position, with the Western Electric Company. I had the good fortune or ill luck (being an optimist I would call it good fortune), to remain in their employ till the middle of October 1916. During this period of my career I spent part of my time in the Physical Development Laboratory in New York City and the remainder in Chicago, making a study of manufacturing conditions in their plant.

During this eleven months' employment, it had slowly seeped into my brain that men a great deal brighter and better trained than I were not getting salaries large enough to keep them in soap and towels. From the time of this discovery until the cessation of my employment with the above company, I became more and more convinced that I must either change my position to a more remunerative one or give up smoking. Deciding against the latter course, I resigned from their employ on the date above mentioned.

After two months of idleness as a social butterfly, I found employment with the Cooper Hewitt Electric Company at Hoboken, N. J. I took this position for two reasons, namely, because the internal workings of a mercury vapor lamp were always of great interest to me and secondarily, because being of German ex-

traction on my mother's side, I felt it incumbent upon me to work in a town which is reputed to be one of the largest nests of German intrigue east of St. Louis and Milwaukee.

Being of a more or less miopic disposition, I must confess that the class assessment that you so kindly offered to relieve me of has not made its appearance over and above my actual needs, but I will collect the necessary funds with what expedition I can and mail you a check at the earliest opportunity.

I hope that the men of our class will see the advisability of keeping in as close touch as possible with the 'Stute and with their classmates, not only from the standpoint of the duty which they owe their alma mater but from the mercenary one of obtaining and giving what assistance they can to the other men in their field.

I fully believe that the system that you have inaugurated is fully capable of taking care of the personal information about the men of our class, and I am prepared to do what I can to assist you in any way.

Why is it that we never discovered that Charlie Reed could be a humorist? He writes from down in Delaware:

Since graduation I have been working for the E. I. du Pont de Nemours & Company in their ballistic (see dictionary) division and experimental station. The work is highly interesting and not very dangerous. During my first three months here I lived in a large room in a small house with one young and three old maids. It was all right in the daytime when I was at work, but I didn't care for it at night. I was seeking new quarters when an old Tech man offered me a chance to hold down his room while he went abroad on a business trip. His apartment was sure fine,—two large rooms, private bath, two beds, private 'phone, steam heat, electric lights, a gas stove, a piano (in tune), eight decks of cards and one thousand poker chips, not to mention a card table with a waterproof Fabrikoid top, all this within three blocks of the business section of the town. For three months I sure did live in style.

On January thirty-first the Tech friend returned from Norway to claim his rooms, and I moved up here far from town, and am doing my best trying to fill a small room fifteen feet square with one bed, one table, one chair, one bureau, and,—Oh yes, one necktie rack. However, I have a kind motherly landlady who leaves cocoanut pie on my table o' nights, but insists on putting all the nails, tags, needles matches, scissors, pencils, keys and collar-buttons which adorn my bureau top, all in one big dish in the middle. Oh well, I can eat pie, and every night I reclassify all the odds and ends and spread 'em out all over the bureau again.

I went up to the I. C. A. A. A. Meet in Philadelphia two weeks ago and ran into about sixteen men of the track team. I saw Frank the first thing and he directed me to the dressing booth. I would suggest that in the future the track team forego the expense of taking "Doc" to the I. C. 4 A. Meet. Cy Guething fills the bill admirably! When I arrived, Cy was down to the skin rubbing the finishing touches into F. Patrick O'Hara's legs. I was up in New York before Christmas, and saw Jack Stafford and Bill Shake. Jack was worried because his job was so soft, and Bill was in love,—yes, in love,—Bill!—think of it!

That explains why Bill is as yet unheard from. In another letter to Charlie McCarty we hear that Obie is back in Baltimore, working under the chief civil engineer of the Maryland Steel Company at Sparrows Point, Maryland. Schwab had bought out the plant, and is spending fifty million dollars to triple its size. Obie says:

I have been staking out blast furnaces, coke ovens, ore and coal docks, a half dozen big rolling mills, trestles, railroad tracks and lots of other buildings. The construction work will start shortly and I think I will get lots of good experience. The plant is located on Chesapeake Bay and I have to leave my comfortable bed at 5.30 a. m. which makes it pretty hard, but I receive a little more pay than I did with the R. R.

The latter part of that sentence sounds much more cheerful to us than the beginning.

Old Rusty White is still learning the hosiery business in the Ipswich Hosiery Company, Middlesex Department at Lowell, for salesmanship, and wishes it distinctly understood that he is not in the woolen business. He expects to be on the road within a year. Rusty is chief watchdog and general *semper fidelis* for 1916 affairs about Boston, and will probably be heard from later in connection with our reunion. He writes in January regarding the class attendance at the Alumni Association banquet:

"Below is the list of 1916 men present. We were the largest class delegation there. No cups for attendance were given out, however. Mark Aronson, Dana N. Barker, B. C. Boulton, Thomas D'A. Brophy, Howard P. Claussen, Robert A. Crosby, Kemerton Dean, Samuel M. Ellsworth, John Gore, Edgar F. Hanford, Emory L. Kemp, Charles W. Lawrence, Phillips C. Morrison, Waltar V. Reed, Raymond E. Smith, Arthur K. Stewart, Bailey Townshend, Russell H. White. You might note that during the cheering, etc., our class was the only one that received applause when we gave our cheer. It touched us quite a bit, and made us feel that our presence at the Reunion last June was remembered."

For his statistics, Rusty writes briefly on March 22:

Took my last vacation before work in the White Mountains, June, July and August. Afterward, traded my dress suit for two pairs of overalls and a jersey.

Shep Shepard has been one of the class's men of leisure till lately, and writes a most interesting letter, narrative of his trip to Central America:

After graduation I loafed at home up in New Hampshire all summer. I was about to start in work with the Regal Shoe Company on October 1, when I had an opportunity to go down to Nicaragua, C. A., and visit a friend of mine who owned some very large cattle ranches there.

I went down to Panama on the United Fruit Line by way of Jamaica. I was in Panama for a week, waiting for a boat to take us through the Canal and up the Pacific Coast to San Juan del Sur, Nicaragua, where we landed. I had an excellent opportunity to look over the Canal and the big Government Works at Panama. From San Juan del Sur to Rivas where my friend lived we had a six-hour horseback ride through swamps, jungle and almost impassable road. At times the horses were up to their stomachs in mud. You can imagine me going through this, when I had never ridden horseback before in my life. However, we had to go horseback all the time I was there, so I soon got used to it and enjoyed it very much.

I spent my time there in visiting his different ranches in Nicaragua and the mountains of Costa Rica. While in the latter place we were both taken by the fever and were three days' horseback ride from the nearest doctor. Believe me, I wished I were back in good old Boston then.

The boat service to those Pacific ports is very irregular, and I had to wait twenty-two days for a boat coming back. Even then it was an old tramp with no passenger accommodations and I had to sleep on a wooden bench in the chart room and eat with the crew. I came back by the way of San José, Costa Rica, which is a very orderly and pretty little country. I got back to the States the last week in January, and nearly froze to death after being in the tropics all winter.

I am now working with the Swiss-Shepard Company here in Boston. They are

makers of "hand elevating trucks" which are just beginning to be used by the large manufacturing plants here in the country. At present I am a sort of "production engineer" and general all around handy man. However, I am hoping for better things.

"Dodie" Dunn has embraced his profession and is located in Boston. He writes:

After the "terrific nervous strain" of graduation week,—culminating for me in the trying ordeal of facing the grinning cohorts of my classmates in Course IV from the graduation platform, when I read all about a proposed naval academy that nobody was interested in anyway;—after all this, I say, I spent an altogether lazy and very quiet summer at Surf Farm on the Rhode Island coast. I had intended returning to the 'Stute for a P. G. but instead decided to accept an opening with the Boston firm of Blackall, Clapp and Whittemore. I have been with this firm ever since, and like the work and the men very much.

The first application of my training in design was the production of a "twenty-two-thirt" movie and vaudeville house. This is somewhat lacking in the Beaux Arts spirit but it is "some movie."

"Burky" Burkhardt, of fame in our freshman year as a football and track man, is an honor man in the school of experience. He calls the account of his career, "My Hard Luck Story":

On leaving school I accepted a position with the General Sales Company of Springfield, Mass. as a paper salesman. Firm failed up!

I next worked for the firm of Coward and Coward, Electrical Engineers of Holyoke, Mass., as repair man, rewinding motors and generators, etc. Very good position, obtained much experience and liked the firm, *but*—hard times and slack work! Result was I left Holyoke and obtained a position with the American Optical Company at Southbridge, Mass., in the capacity of efficiency man (mechanical) in the gold department. My "job" was to improve machinery or methods of handling work in order to increase production and decrease labor. The company fitted out a work room for me (they called it "experimental room"). Liked the work, my bosses, the *pay* and the town, *but*,—I saw a better opening ahead. This opening was a position as rodman for the John Marsh Construction Company of Chicago, then constructing the Southern N. E. R. R. from Palmer, Mass., to Providence, R. I., with headquarters in Southbridge. My chief was P. Strang, a Cornell man. A. C. Brown, M. I. T. '14, was a chainman on our party. It was one grand little party, too.

On completion of the work I obtained a position as transitman for J. E. Christenson, engineer for the town of Southbridge, but in about two weeks I received a telegram from the Atchison, Topeka and Santa Fé Ry. Co. offering me a position as rodman on valuation re-cross-section work on the Kansas Rate Case, Topeka Kansas, headquarters. Was promoted to instrumentman June 1916. I left the Santa Fé for,—the Army! Joined E Company, 2d Kansas Infantry for service at the border. Went to Fort Riley, Kansas, was mustered into the United States Army and then in about a week was disqualified and discharged on account of eyesight. Cease, dear heart, thy sad repining!

Santa Fé gave me my old position back with an increase in salary and pay for the time spent at Fort Riley. Regular company!

January was transferred to Missouri Rate Case on account of the completion of the Kansas Rate Case. Still in the field.

Kem Dean seems to be getting his fill of experience, and writes an interesting letter from the South:

The last REVIEW told of the interesting fact that I was recuperating from a prolonged summer illness. After graduation in June I had an operation on my neck which caused trouble all summer. The first of October saw me on the ghastly

table again under the surgeon's knife; however, it was very successful and I was working by the fifteenth of the same month.

Since the middle of December I have been employed by the American Agricultural Chemical Company and last Saturday they sent me down here for a couple of months, not this town but this section of the country, doing inspection and inventory work which is very interesting, and teaches a fellow more about the business in the same length of time than any job I know of. The experience of seeing other parts of the country and of being away from the home office is also good and gives one the feeling of independence and confidence that is generally lacking, through no fault of the individual, when in the home town.

I spent last Tuesday night at the Tech Club and had a pleasant chat with Ralph Millis and "Ref" Alfaro. I was sorry not to have seen some of the other boys who are in New York, but expect to work up that way gradually. While I was working in Boston I saw quite a good deal of Sandy Claussen and Tom Little, who are both holding down nice little jobs with private offices and stenographers attached.

We are glad to hear from Berk Berkowitz, who left us in October 1914. He helped share the vicissitudes of the sophomore dinner with the assistant secretary and so will be endeared for all time by him:

It certainly was great to hear from one of the boys again. I have been busier than — and haven't had much time to get in touch with the class. However, things are progressing extra fine for me (I hope all the rest of the boys can say the same), and anything that I can do in the way of helping the class now, I shall certainly consider as a special privilege.

It was pretty tough leaving the Institute when I did, but nevertheless I had to go, and go I did. Finding funds pretty scarce I started looking for a position (note the word position; I was glad of a job before I got through) for the winter of 1914 was an ultra tough one for engineering in general. In fact, in most of the engineering offices all signs of help had disappeared and the boss was office boy, *pro tem*. After considerable search, however, I landed a job as boss of a gang of Italians ("wops"). The superintendent of the job did not appreciate my ability, however, and allowed me to remain but three days. Dame Fortune smiled upon me, for I secured another similar "job," and believe me this was some job, for it required my presence at a destination some twenty-five or thirty miles from home at the then unheard of hour of 6.45 a. m. However, since then I have come to appreciate early rising. This one lasted six weeks, 1200 per cent. improvement. Next assistant manager in a theatre with a "souse" as manager some time. Six months here. Next my present job, almost two years, and prospects bright.

We've spoken of Tom Little before, but here's an autobiography:

Took a good vacation till August first, thinking that it would probably be the last opportunity for such big joy for an indefinite period. Spent the best part of it on a house party in the Maine woods—and sure had a good time.

On August first started to work in Boston for the Bemis Brothers Bag Company. Spent the first month wearing a track from the office to the post office and back, and cleaning ink wells and running errands for all concerned. Then spent my time till December working as cashier, and learned that it is not as easy as it looks to keep a set of books in balance. Since December have been working as assistant to our vice-president—this will probably remain my job for some time to come,—and it is very interesting work. Am connected with the burlap end of the business, which is particularly interesting at this time as all these goods are imported from India.

Am living in an apartment at 84 Browne street, Brookline—keeping house with Steve Brophy, Bob Allen and George Beach, '14. We have a rare little bachelor's apartment and would be more than glad to have any of the boys who come to Boston drop in to see us. I will always be interested to get any dope on the class.

Walt Littlefield is quite laconic. He says:

Career is good; having all of a Harvard man's respect and admiration for the "S-Toot," I accepted a position as sub-janitor,—otherwise known as assistant in the elec. eng. lab. and have been assiduously passing along all that life made miserable for me in the past two years. Next year I expect to get a job, but the Lord only knows where. Dates are not made for publication.

Dutch Maier of freshman football fame, writes briefly:

"I first went on the road, later into the brewing business, and now am proprietor of a Café."

Was married October 27, 1916.

Ros Rennie, who confesses to "Cupe," "Fat" and "Ros" as nicknames; the hero of countless Shows, and anchor man on "Mac" McDaniel's famous beer relay team, is now an engineer. He says:

Well I didn't exactly graduate with the class but I followed it along, going to summer school to get that ! ! ! ! entrance French off, and then in September I received my notice, which read differently from the one in June.

Then after a trip out home I made it back to Boston and finally went to work down here in Waterbury, Connecticut, on November sixteenth. Yes, I am a research engineer, like my position very much, and hope to stay here for some little time yet. I get up to Boston once or twice a month and have met a few of the fellows from time to time. Give my regards to any of the fellows you see who know me.

Our secretary in our sophomore year, Miss Elizabeth Greenleaf Pattee, proved faithful to the call for information:

Last summer my first position after graduating was as draftsman in the office of Howe and Manning, architects, in Boston. In the fall I accepted an offer to instruct in architectural drafting and design in a school of landscape architecture for women at Groton, Mass., and at the same time have the opportunity of taking a couple of courses in landscape design and planting which I shall find useful later on.

Scratch Hall writes:

Left the Institute April first, 1916, to accept position as national field secretary of the Phi Gamma Delta Fraternity.

This work takes me all over the United States and I am making friends and acquiring a knowledge of the country and its different educational institutions, which ought to prove a very valuable part of my education.

I have been in twenty-seven different states and visited forty-two different colleges and universities throughout the country since leaving the Institute.

Whit Whitaker sends us a kindly bouquet from South Bend, Indiana:

Upon leaving the Institute in 1914, returned to the University of Pennsylvania and completed my course, receiving the degree of B. S. in M. E. Then went with the United Gas Improvement Company of Philadelphia as assistant foreman of one of the departments. On February 1, 1917, accepted position of assistant engineer with the Northern Indiana Gas and Electric Company at South Bend. Member of Technology Club of Philadelphia. Member University Club of South Bend, Indiana. While being strictly an alumnus of the University of Pennsylvania I deem it an honor to be included as a member of the class of 1916, M. I. T., and shall be glad to support it in any way I can.

Backsliders in the matter of joining the nearest local Technology club please note that Whit lost no time in "hooking up" at Phil-

adelphia.—Bob Wilson received the panegyric properly due him in the last issue of the REVIEW, but here's his confession first hand:

Left 'Stute in April 1916 to take a job in the research lab, of the General Electric Company at Schenectady. Worked there until September 1916, taking a week off for commencement at Tech. Developed a new porcelain-like body to meet conditions necessary for spark plugs in modern high compression engines. Since September have been teaching and doing research work at the Institute, as research associate in the laboratory of applied chemistry under Dr. Walker. Teach two courses this year. Research on mechanism of gaseous reactions and various sidelines. Enjoying the work immensely. Married December 22, 1916, to Pearl M. Rockfellow of Albany, N. Y. Nicely settled now at 281 Harvard street, Cambridge.

Have enjoyed your write-ups in the REVIEW immensely. Keep up the good work. Hope things continue to go well with you—drop around when you are in town some day,—there are a lot of '16 V and X men around. Leach and Wylde are assistants in the school of chem. eng. practice, as I suppose you know. Gore, Knowland and Maverick in our lab., Hale with Dr. Gill, Gooding in theoret. lab. and a lot of other Course V men scattered through the various analytical and other labs.

Some other dope that may be of use to you if you have not already got all of it from other sources. Pitman, Hoffman and Fuller are with the Berlin Mills Company, Berlin, N. H. One of them is to be married this Spring—I don't dare tell you which!—Zilliacus is doing research work for the government in England, at last advices was perfecting a mask for poison gases.—Schur is doing research work for the Boston Woven Hose and Rubber Company.—Sweet is with the Koppers Company building coke ovens.—Believe Lavine is with them, too.—Leach was also till December. He ushered at my wedding; is at Cambridge Y. M. C. A. now.—Neave is engaged to a Miss Allday. He is working in Cincinnati.—Ross, ex '16, is taking school of chem. eng. practice.

Bob needn't have been so considerate of feelings in regard to that mysterious benedict to be, for in a letter received the same day, Earl Pitman comes out like a man and confesses his weakness. Here he is:

Undoubtedly you are preparing to equip the entire army with rubbers in case we finally get into the war. It is my great regret that I cannot perform some equally valuable service for my country if the necessity arises. Soon after my last letter, I did a considerable amount of work upon the absorption of gases by various oils, with the idea of making liquid SO_2 from ordinary burner gas. At present Hoffman has a small experimental installation for that purpose nearly completed in one of our paper mills. Since the first of January I have devoted all my time to research upon a process for making acetic anhydride from sodium acetate and sulphur chloride.

I used to think that sulphur chloride was about as loathsome a compound as I should be likely to run across, but the anhydride has it stopped both ways at once. If it ever becomes your painful duty to show intense sorrow when you feel none, just introduce a little anhydride vapor into the immediate vicinity of your eyes, and the trick is done. You will automatically weep as copiously as the most fastidious could desire. A small experimental plant has just been put up for me, and the castings are about ready for installation. If you fail to hear from me again, you will know that another martyr to science has succumbed.

If you wish to fill in the void under "Domestic and Social" on your alien registration blanks, you might note my engagement to Miss Mary Gove of Salem, Mass.

There is some six feet of snow in the woods hereabouts, but we have been having a little real spring weather for the past week, and around town there is an occasional patch of bare ground.

Heard about Zilliacus? He is now in England, in charge of a factory which turns out a couple of tons of gas masks per day.

The hearty congratulations of the class upon your engagement, Pit.—Don Woodbridge writes:

I went to work as an assistant engineer with the Interborough Rapid Transit Company of New York in June 1916. I am in the electrical construction department, the offices of which are located in the Cable Building, 621 Broadway, G. C. Hall, '96, is the head electrical engineer. Lowenberg, '11, and De Beech, '15, whom the class of '16 will remember if they took T. E. M. in the third year, are also in the department.

Bill Farthing has emitted a faint peep from Texas at last! After getting off a bunch of unnecessary derogatory remarks about his virtue as a president, he launches into the following tirade:

... but were you shipped as far away from everything near and dear to you, with little hope of getting back soon, you would probably not neglect your duty as I have done.

Thanks, Bill.

I have heard very little concerning the class since I left Boston. Tech is little known and much respected down here. The REVIEW was devoured greedily and I do believe it kindled a spark of enthusiasm that was about dead. I have heard from several of the boys, and they all seem to be contemplating matrimony. I also gathered that I was a suspect. Never such luck for me. I am working as engineer for the Texas Company and eke out a meagre living. Really it is not as bad as that, but old Boston holds the best hand now. What arrangements are being made for next June? I wish by all that is holy that I could be there, but I do believe it is impossible. There are enough of you there to really make the class felt around the 'Stute about commencement time. Now I have thrown off the old spell, and am back in the harness again. Give me something to do, and give me what information you can concerning the boys.

Bill also said in an earlier letter:

About two months ago I was given six dredges and three pile drivers to look after with the work they were doing, which was a pipe line right-of-way, a reservoir, some protection levees, and tank foundations. From that list it might appear that I was snowed under with work, but really it is not nearly so bad as it sounds. It is enough, however, to keep me busy most of the time.

We check you on that Bill.—Bill Brown is "in the army now" and says:

Graduated 1916. Assistant manager Granliden Hotel, Lake Sunapee, N. H., summer of 1915. Assistant professor of electrical engineering at the Virginia Military Institute, Lexington, Va., session 1916-1917. Tactical officer and captain in the Virginia National Guard, detailed at the V. M. I.

Mac MacRae comes in next:

Please excuse the slowness with which I am answering your very worthy appeal for cash and dope, but just at the time I received said appeal, I was making a change of jobs, or rather changing from a job to a position so did not have a chance to write until the present. Per request am enclosing check for one buck and consider myself lucky to get off so lightly. To get down to your other request, I will begin at the beginning. After graduating—I say that with a great deal of feeling—I started in to work for the Winchester Repeating Arms Company at New Haven. Down there we started in just like any other old "wop," working in the shops and doing most any dirty job that came along. Frequently I would wonder what was the good of ever going to the 'Stute at all if that was what they called being an engineer, and when I thought of the "We are Happy" yell, I knew that the man who wrote the second line did not know what he was talking about, or anyway, had not worked in the shops in the middle of the summer. To me Tech looked like a pretty good vision of Heaven by comparison. In spite of all, I am beginning to think that I got some pretty good experience out of it, which is about all that a poor

Tech graduate can expect for the first year,—I am quoting this from a typical employer of college graduates.

Well, I left New Haven in March and am now working for my father. I expect to start in the manufacture of lumber, in the western part of North Carolina, and for the next three or four months will be busy going around to sawmills and lumber camps trying to learn something about the business. So far it has been very interesting, and I think that I shall like it immensely.

Max Woythaler is sticking to chem and writes briefly:

Have been working at an experimental plant to develop a cracking process for petroleum distillate to obtain petroleum. Carried out the preliminary work, then assisted in designing the commercial unit. At present we are operating the unit and making demonstration runs for prospective users of the process.

From Duke Wellington:

During the summer I worked for Prof. H. K. Barrows, and when the 'Stute started in the fall I came back as the assistant in the "Water and Air Lab" under Prof. J. F. Norton. At the end of school in June I am in hopes of obtaining a job with some company that has to deal with waterworks.

George Sweet is in the by-product coke business and evidently enjoys it:

My graduate career, of which you so urgently request information, is in the embryonic state as yet. I started work at the By-Product Coke plant of the Youngstown Sheet and Tube Company on July 8, 1916. My energies were needed in the by-product department (there are three departments, batteries, by-product and benzol) where I became a stillman, operating an ammonia still. I have since worked my way to spell assistant foreman. Ambition says that I must be foreman this summer. It remains to be seen what the "powers that be" will say. The coke business is a fine one to enter if you have a longing for work exclusive of all else. I work week about, day and night shifts, 11 hours day and 13 hours night shift. The rest of the time I have to myself, so that I can read dope on the coke business.

Dick Ahearn has been in the Boston office of the Trussed Concrete Steel Company since October, and is now estimating and designing concrete buildings.—Bake Baker was with the Detroit Water Board until November. He is now with the Larowe Construction Company doing pipe layout work for western sugar beet factories, and in addition is teaching evenings in a large technical high school.—Gene Barney is with the Domestic Engineering Company of Dayton, Ohio, in work of a technical and literary nature. He says in part:

As yet I haven't had the privilege of meeting any members of the class since June, however, I have heard pleasing news about many of them. We have a Tech-Dayton Alumni Association consisting of about thirty live Tech men. At the recent banquet we had one hundred and ten per cent attendance. We will be glad to see any Tech man at the weekly luncheon held at the Engineers Club Tuesday noons.

Tom Berrigan has been with the Boston and Maine Railroad and with the Boston Structural Steel Company since graduation, but is now a structural steel draftsman in the Bureau of Yards and Docks, United States Navy Department.—Blanch Blanchard, who left the class in June 1915, is now in the Investment Business with the Blanchard Company of Boston. He is engaged to Miss Dorothy Parker of Winchester, Mass., and hopes to be married

next fall. Hearty congratulations, Blanch.—Mervin Bliss is a draftsman and inspector in the Statistical Department of the New York and Queens Electric Light and Power Company.—Charles L. Broas has been assistant resident engineer at the Junction Hydro-Electric Development on the Manistee river, Michigan, with the Fargo Engineering Company. He is now in the company's offices as a detailer and designer.—Bob Allen and Steve Brophy are located with an architectural firm in Boston. Down here in New York we have heard that they are living up to their reputation of being on the job. Steve, by the way, has an active job on the Alumni Council. He writes briefly:

Engaged as assistant general director of the Boston production of Percy Mackaye's Community Pageant "Caliban," produced in New York last year. The Boston production is for two nights the latter part of June. I. W. Litchfield, '85, is on the committee, Ralph Adams Cram, chairman of the executive committee; James P. Monroe, '82, secretary. Elected representative-at-large in the Alumni Association for term of three years. Practicing architecture when the time permits.

Frederick C. Bryant is with the Allied Machinery Company of America in the foreign sales department in Paris, France.—Buck Bucknam is working for the Pittsburg Division of the P. C. C. and St. L. R. R. Co. in Dennison, Ohio.—Luke Lucas is with him, working for the same company.—Bob Burnap is in the research division of the electrical engineering department at the 'Stute, working under Professor Wickenden.—Buck Buxton writes:

Employed since June 19, 1916, as assistant to the superintendent of the Torrington Manufacturing Company, builders of rolling mill machinery and designers of special machinery for metal working.

C. C. Carpenter of Tech Show fame, who left us in June 1915, is back at the Institute again to finish his course. During the time that he was away he had quite a varied business and engineering experience with Norton and Hemenway on brick and concrete construction, Lovejoy and Company of Cambridge, making gun barrels for the Allies; with Stone and Webster drafting, and with the R. H. Howes Construction Company on concrete and mill construction. He ends an interesting letter, writing:

Now I'm back at the 'Stute and it doesn't seem as though I'd been away since June 1915. It seems longer to look ahead to June 1918, when I expect to get my degree, but no doubt the time will go quickly enough. Though there are a number of the '16 bunch at the Institute in one capacity or another, it is not quite like being back with the old class, and though when I graduate, it will be with an entirely different bunch of men, the three years that I spent with the class of 1916 make it impossible for me to feel like a member of any other.

I hope the fellows will send in so many accounts of their interesting experiences that it will necessitate the publishing of a special 1916 issue of the REVIEW. It would be one interesting volume, I know.

Jap Carr is taking the student course at the plant of the Good-year Tire and Rubber Company at Akron, Ohio. He writes:

Took factory course of three months. Spent six weeks on special instruction and efficiency work in the crude rubber department. Was requested to remain in this department but had other plans. Spent three weeks as experimental draftsman in aeronautical department to help out in a rush of work. December 21 started to do some real work. Transferred to the mill room. After running a mill for two weeks and taking the inspector's school for two more, I became an inspector. In the final exam of the school I felt it incumbent upon me as a Tech man, not to let anyone beat me, and so got 100 in it. *Some wop?* I have a fine job with no title and lots of money. The latter is not everything, of course, but it is comforting when the lack of the former becomes oppressive.

Cell Cellarius is in the architectural office of Tietig and Lee, Cincinnati. He says as both bosses are Tech men, he is in good company. Frank Chandler is with the Associated Factory Mutual Fire Insurance Company, in Boston.—Bob Crosby worked with the Westinghouse, Church, Kerr and Company in New York till December. He writes:

Then the longing for the old home town got into my bones, so I hit the trail for bean town and started to steal my weekly stipend from the Boston Edison Company, where I pass the weary hours slipping the slip-stick and juggling dark blue kilowatt hours with dollars and cents.

Bob has adopted as his motto, "Don't be a hard boiled egg" and commends it to the consideration of the class.—Charles L. Crozier is an assistant in the department of civil and sanitary engineering at the 'Stute, under Professors Porter, Whipple and Barrows.—Curt Curtis is assistant treasurer of T. I. Smith Company, North Attleboro, Mass., manufacturing jewelry. He says in part:

The 1916 Tech baby, which I had the pleasure of presenting to the class during my senior year, is doing finely. He is an exceptional child in another way, that is, in his birthday the 29th of February, a leap year baby.

Devy Devine is with the Canada Paint Company of Montreal.—Bill Drummy is "architecting" and gets off the following:

Am now with the Massachusetts Engineering Company's architectural department, earnestly endeavoring to beautify Boston with anything that will keep out the weather. Have bamboozled that company into thinking that I am some little designer, and they are suffering in silence,—so far anyway.

Bud Eldredge has been working for the Boston and Maine Railroad since he left the class in 1912.—Herbert Ellis is with the National Lamp Works of the General Electric Company in Cleveland.—Rev. Fairfield is teaching everything from heat and vent to naval architecture at Rensselaer Polytechnic Institute at Troy, N. Y. Part of his letter reads:

The only '16 men I have seen are those I saw when in Boston in December,—John Eberhardt, W. J. Barrett, and poor Leon Chalato who is laid up in bed at 308 Newbury street. I would be very much tickled to hear from any '16 men or to see one at 6 Balsam avenue, Troy, or at the mech. eng. dept. of R. P. I.

H. L. Foster writes:

Was instructor at Summer Surveying Camp for five weeks last summer. Didn't dare stay longer, because I was afraid that the threatened R. R. strike would hold me up in Maine and interfere with an important engagement in the shape of a wedding which took place on September 6, 1916. Yes, I'm a carefree married man now,

don't have to mingle with the teeming push at the Union any more. Tell Bill Farthing for me, not to delay any longer but to work nights in completing his designs at Houston. *Ai buen entendedor po cas palabras bastan*, Bill.

Am holding down an assistant's job at the 'Stute this year, accumulating vast stores of knowledge for future combat among my beloved classmates.

J. J. Fouhy is with the Boston and Albany Railroad as an instrument man.—Hal Fuller, who is with the Berlin Mills Company in Berlin, New Hampshire, says:

This town,—I beg its pardon,—this city may not be much, but the country round about is *very* special and there are plenty of week-end campers, of which yours truly is usually one.

The Research Laboratory of the Berlin Mills Company gives me shelter during the week, in return for which and something to boot, I am working on all sorts of things which will coin money for the company. I arrived July 4 and am still contentedly sticking.

Gan Gagnon, Arvin Page and Hal Gray are all at the plant of the Goodyear Tire and Rubber Company in Akron, Ohio.—Gilk Gilkey is with the Pennsylvania Railroad as assistant to the track elevation engineer at Chicago.—Good Gooding calls himself a "gentleman janitor in Theoret." at the Institute.—Ed Hale is Dr. Gill's private assistant at the 'Stute.—Harsh Harshbarger is with the Pensy Road and writes in part:

Last July I started as chainman on the Pennsylvania Railroad and had quite a nice summer of it. Lots of excitement getting ready to run things when the Brotherhoods walked out on us. Running gas handcars over main line tracks, with no rear protection from the block signals is not exactly soothing to the nerves, especially if your gas buggy can only do thirty. Was up around the new buildings a month ago, but did not get time to go in and see if I could unearth any Course I men that I knew. My Wellesley friend said we did not have time, if we were going to follow the program. Will try to do better next time.

Albert Holmes, just "Al," is engaged on public utility work in the National Bureau of Standards, and is on the road much of the time. When in Boston he may be found at the Engineers Club; in New York at the Technology Club and at the University Club in Washington. He hopes to be able to run across some of the '16 men at these places and wishes that any frequenters of these haunts would look him up.—Thomas G. Jewett, Jr., is now cashier and paymaster with Warren Brothers Company, Boston paving contractors.—Ben Kerstein is with the Massachusetts Highway Commission as a permanent transitman.—Laurie Knowlton is at Pittsburgh with H. Koppers Company, manufacturers of By-Product Coke Plants.—Lamp Lanphier is with the Bethlehem Steel Company, "shooting trouble" in a steel plant.—Sam Lapham is first assistant designer with the Carmichael Construction Company of Charleston, S. C.—Hayden P. Mayers of San Antonio, Texas, who was with the class for a year, has entered the regular service of the United States Army with the grade of second lieutenant and is stationed at Fort Leavenworth, Kansas.—Fred McKown spent a month at Plattsburg last summer, and then entered the employ of the Western Electric Company in New York City.—

Joe Meigs was chemist and asphalt inspector for the city of Boston during the summer, but is now back at the 'Stute as an assistant.—Munny Monroe has been with the Cumberland County Light and Power Company of Portland, Maine, and with the George A. Fuller Company in Boston, but is at present a structural detailer in the water works department of the Pittsburgh-Des Moines Steel Company, Pittsburgh, Pa.—Harold Moxon, X, who left us in the junior year, is a chemist in the phenol plant of the N. E. Manufacturing Company at North Woburn, Mass. He says that he is "useful but not indispensable."—Bob Naumburg is an efficiency engineer at the Revere Rubber Company plant of the United States Rubber Company in Providence, R. I. He writes:

I have an assistant, a card index, a roll top desk and everything, just like a regular engineer.

Art Neave is with the Chatfield Manufacturing Company of Cincinnati, distilling coal tar.—Shatswell Ober, nickname "Sober," is a hull draftsman for the Bath Iron Works in Bath, Maine, and is leading the usual first year man's life. He says:

One day is much like another, each week like the last, and each month like the previous one, so that there can be no startling tale of a career.

As Peab said the last time that I managed to arouse myself sufficiently to escape to Boston for a week end, we are now beginning to learn the business we studied at the 'Stute. I'm just beginning to realize the difference between the way that we are trained to act and think, and the way certain other school and college men aren't.

I suppose that the other fellows in my course will reply all right, but in case they don't, when I last heard they were: R. F. Hall, at the Fore River Shipbuilding Company.—C. F. Gross, instructor at the United States Naval Academy.—W. E. Long, at the Fore River Shipbuilding Company.—E. F. Hanford, Lawley's Shipyard at Neponset.—H. Larnier, assistant N. A. Department, M. I. T.

Long is engaged, for details write "K. C." Richmond.

Here's good luck to you, to 1916 and to Tech, now, always, and then some.

Luther Phillips writes:

Have been taking graduate work in Course IV this year, and senior design, including thesis. Expect to graduate in June.

Sandy Claussen is the acme of fidelity in the matter of correspondence, and he writes not only frequently, but most interestingly and at length. Of course, according to Kem Dean, Sandy has a stenographer, and Sandy's letters always come typewritten. We have not seen her, but knowing his taste it may not be as bothersome a task to write as it would seem. Here are parts of a letter received in February:

As for my life story, being a man "with a past" I feel that this would better be left dormant and untold. So we'll skip that part preceding June 1916 and get down to brass tacks, the substance of the matter as it were.

You remember Tom Little, and of course you know Dick Hunneman. Well the three of us are very nicely located here with the Bemis Brothers Bag Company; I started in last July, Tom in August, and Dick just joined our ranks about February 1. It seems rather nice to be here together, let me tell you. Charlie Lawrence is just up on the corner with the Boston News Bureau, while Kem Dean is

over on State street with the American Agricultural Chemical Company. We manage to get together every little while for lunch and kid each other along into believing that we are getting to be business men, talk over "how busy we were to-day," our bosses and various other matters, but in all rather pleased to be right here in the good old town of Boston, rather than in some hole in the West.

Hen Shepard just got back from a little trip to Nicaragua, and we are living together up on Commonwealth avenue.

I received a letter from Eddie Whiting some weeks ago, written on board ship bound for France. You probably know that he is in the employ of the Allied Machinery Company de France with headquarters at Paris, and by this time is undoubtedly located in some fashionable hostelry of this famous resort. Believe me, he is a lucky boy. Let us hope that some German bomb doesn't get him un-awares as he strolls the boulevards in search of conquest. Then, again, the attractions will be too much for the boy, I fear, and (speaking abstractly, of course) I am afraid he will relapse into that state of being so dear to Tech men as a rule, and aptly designated by the words, *all shot*.

Then again, there is Tom Holden, Course IV, whom you might wish to locate. He started in Boston with several architects of note, but left Boston about a month ago for his home in Austin, Texas, where I believe he intends to start in as an architect on his own account. Saul Makepeace is down in Providence with his father in the mill architect and engineering business and seems to like his work very well. He has been sent out on jobs as supervising engineer, and tells me that he is getting away with it. George Stickney is located in Beverly with the United Shoe Machinery Company. What his official capacity is I don't know, but I have a hunch that he is in the machine shop, learning the business from the ground floor up. I suppose that you hear from Rusty quite often. We see each other now and then, and say, the little group of us that attended the Alumni Association banquet had the finest time imaginable. We all wished that more from the class could have been there, as the speakers were very interesting.

As for myself, there isn't much to state except that I am on the job in Boston selling bags and burlaps and, in common with the rest of the boys, trying to learn the business. It is noticeable to see how many men fail to stick to the engineering profession, isn't it?

In a letter written the last of March Sandy notes a phase of the Tech man's patriotism that will require development in the near future. He writes:

A number of the boys in our class are in a dilemma as to know what to do in case of war, and they call urgently for men. It is a question whether to offer yourself at once and so get in on the ground floor, or wait until they draft you and have the disgrace of being forced in. Well, there isn't any doubt as to the course that Tech men will take. Personally, I intend to visit the Navy Yard tomorrow and get all the dope on scout and patrol boats. I have had experience along these lines, and was captain on a passenger boat one summer. I believe I have heard of some sort of scheme among the undergraduates that on a call for men all Tech men who offer to go will form a unit. This sure is a great spirit and I would not object to going with the whole crowd myself.

At a little private smoker, Mac MacDaniel was there with the rest of the gang, and really, you'd be surprised to see how thin he is.

Tech may make a sylph of Mac yet. He has again written the Tech Show and as this letter goes to press we hear that it is bound to be a success. Mac gets his degree this June but he has remained true to his 1916 colors and he says he can't even see another class.

But to return to the situation militaire, the number of Tech men who attended the military and naval training camps and cruises last summer was pitifully small for a college of the size of

ours, particularly when the need for technically trained officers, in an eventuality, is considered. The wisest thing, it would seem, that a Tech man desiring to see active military or naval service in event of war can do, is to strive for his commission in the Officers Reserve of either branch as soon as possible.

Jeff Reid was in the turbine department of the General Electric Company in Lynn till late November, and has since been with the Factory Mutual Fire Insurance Companies in Boston, in the inspection department. His work consists of surveying risks carried by the companies, and drawing insurance plans of the same.—C. N. Richardson, nickname "Cyanide" once in a while, is with the Titanium Alloy Manufacturing Company at Niagara Falls, N. Y.—George Roper is at the 'Stute getting his degree,—"just grinding."—Savvy Saunders, who had the honor of being one of the members of the first class to be held in the new buildings, has reported for duty with the navy and is at present at the Mare Island Navy Yard, California, as assistant outside superintendent.—Enos Sawyer is with the Lechmere National Bank in Cambridge.—Auggie Schaefer is with the Bausch Machine Tool Company in Springfield, building multiple spindle drills, and has given Professor Swett enough data on the subject to permit of its being added to the course on mechanism of machines. Whether he is an altruist or a misanthrope in so doing is up to the judgment of the chaps who took the course.—Clifford Shedd is learning the Taylor System of Scientific Management at the Tabor Manufacturing Company in Philadelphia, and after a year expects to "try it on the dawg," so to speak.—Bill Sprague is with Bertram G. Goodhue, architect, in New York, and has been studying design during the winter under Frederick Hiron at the Beaux Arts Institute of Design.—The Stewarts, Art and Walt, are learning the business in the cotton mills of the Lonsdale Company, Lonsdale, R. I. Walt says he is getting his grip on the ladder rungs, but is still low enough to be a "wop" or a "hunky." Art is somewhat higher up, being "fifteenth assistant to the fifteenth assistant."—Peb Stone writes:

Got a job the 5th of July as a textile engineer with the Champlain Silk Mills of Brooklyn, N. Y. Have been assistant to general superintendent. Job is developing and perfecting present methods of manufacture of spun silk yarns. Very interesting work. Mighty fine men over me. One lazy draftsman under me. Applying for commission with the regular army in case of war.

Ralph Millis is another one of our very faithful correspondents. He is with the H. W. Johns-Manville Company in New York doing accoustical correction work, "which consists," he writes, "in nailing up hair felt in rooms to improve their adaptability for speeches and conversation." Just at present his heart is with the military and after successfully passing his exams he has been recommended for a second lieutenancy in the Engineer Officers Reserve Corps, and he is sanguine of "seeing the inside of a trench" before the

war is over.—Warren Strangman is “operating as a draftsman” for the Mason Regulator Company of Dorchester, Mass., makers of steam and pressure regulating apparatus.—Thom Thomas (Paul B.) was ill for five months after graduation. After convalescing he accepted a connection with Alexander Brown and Sons, brokers, of Baltimore.—George Tuttle is assistant mechanical engineer with the Eastern Manufacturing Company, Katahdin Pulp and Paper Company Division, at Lincoln, Maine.—Bud Kaula is with the company also, and was chemist there for four months. He now has charge of the installation of a bonus system in the pulp mill there and has struck some mighty interesting problems.—Judd Vile is with the Simplex Automobile Company in New Brunswick, N. J., learning the business. He says:

Life in New Brunswick is far from being one of thrills, so that the only events in my career have been the purchases of railroad tickets out of here now and then.

Lewis S. Vose, confessing to no nickname, is with the Stafford Company at Readville, and has his hands full taking charge of the stock maintenance department, and assisting in the installation of a new cost system. He was married October 17, 1916. He is enrolled as a quartermaster in the Coast Patrol on one of the submarine chasers.—Speed Austin writes an interesting letter from Freeport, Texas, where he is an engineer of tests for Westinghouse, Church, Kerr and Company at the mine and plant of the Freeport Sulphur Company. He says in part:

We have four power houses. The last is just being finished. They total 24,000 B. H. P. and altogether form the largest battery of oil burning boilers in the United States. We burn Mexican oil which is brought to the mine through an eight-inch pipe line, $4\frac{1}{2}$ miles long. The line is heated its entire length by steam or hot water, so as to keep the oil hot enough to pump. It is the only pipe line of its kinds in the United States.

The method of mining sulphur may be of more interest than my personal history. The mine is located on a mound about half a mile in diameter and twelve feet above sea level. It is half a mile from the Gulf of Mexico and four miles from the Brazos river. The prospecting is done the same as for oil, by drilling down until sulphur is encountered, and then drilling through the deposit to find its thickness.

The sulphur is found in deposits of ten to one hundred feet in thickness at a depth of about nine hundred feet. When a deposit thick enough to work is found the well is drilled out larger, a larger casing is put down and water and air pipes are put down inside the casing. Hot water is then pumped down into the sulphur deposit and out again for several days until a large quantity of sulphur is melted. Then the melted sulphur is pumped out with an air lift and hot water is pumped down to take the place of the sulphur removed. Sometimes the sulphur can be pumped from one well for a month or more without stopping.

After the sulphur gets to the surface the air lift carries it several hundred feet in horizontal pipes to large wooden vats 150 to 200 feet square. The melted sulphur runs out into these vats and solidifies. The sides of the vats are built up higher as the sulphur piles up until finally there stands a solid block of sulphur of the dimensions of the vat and forty feet high. The sides of the vats are then pulled down, the sulphur blasted out and loaded into gondolas with a Brown Hoist. The gondolas are run down to the Brazos river and onto a high trestle, the sulphur is then chuted from the cars into ships. The sulphur is sold as commercial, but is 99.5 per cent pure.

Herb Mendelsohn was married February 21 and has just returned from a honeymoon in the South. He was with the Barrett Company until the middle of February, but is now assistant superintendent and chemical engineer at the Hudson River Woolen Mills at Newburgh, N. Y. Herb writes that he has rented a house with about half an acre of land, which he intends to cultivate intensively for potatoes.—Bennie Murdough is an assistant in the civil engineering department at the Institute.—Frenchy Dodge writes:

During the school year 1916-1917 have attempted to pass as a professor in electrical engineering at the Institute although cataloged merely as an assistant. Acted in the capacity of chief illustrator for Dr. Kennelly's new book. For monetary purposes have served this year on the staff of the Lowell Institute, the abbreviated evening Tech.

Chuck Loomis, fully recovered from his operation of last fall, is back at the 'Stute striving for his degree and trying hard, evidently, to prove faithful to activities at the same time. He wrote us a man's size letter the last of February, parts of which follow:

Your cute little red card arrived just as I was doing my cussedest to fool the Faculty and survive midyears, and naturally it was impossible for me to "Do It Now." Your ratio of discretion to valor in the choice of time in sending out your little billet doux is certainly very low,—I'm afraid those of you who managed to grab degrees last June too soon forget the trials and tribulations of a student. At the 'Stute, however, now that exams are safely past and passed I'll do my best to hand you what little news I have concerning the great and glorious class of 1916. Most of it is of the bunch around Boston, particularly those still striving for degrees or slaving as assistants.

MacDaniel, Keith, Comiskey and my own honored self can be seen five days a week sitting in the front row at Professor Spofford's lectures on structures—Mac has doped it out that the front row is the safest place and we are taking his word for it. He has one year on the rest of us and ought to know. In heat I find Weber, also ex-1916, and when I endeavor to obtain any information from the various assistants of the civil engineering department, I tremble before the dignity of Charlie McCarthy, Foster, Wellington, Crosier, Bill Liddell, and Eddie Clarkson. In the other departments I suppose the same line holds, although I can give you no dope on who the men are with the exception of Dina Coleman under whom I had a testing materials laboratory experiment last term. I'll have to hand it to Dina,—I got a "C" in the course.

Rusty, Sandy Claussen and myself happened to meet in a movie show one day and afterward repaired to the old "headquarters" where Bill Farthing gave his famous party the night of the senior election,—we sat around for an hour or two and swapped lies.—H. G. Morse is out in India for the Bemis Company, the same job as Bill Ogden. They went out together, and for a while I almost had my mind made up to go along, but thought better of it. A card from our chief marshal arrived this week, mailed from Sparrows Point, Md., where he is working for the Bethlehem Steel Company on construction. He left the Pennsy R. R. about a month ago. Jack McDervitt and Brad Stetson announced their engagements this last fall; Jack plans to get married in June and Brad as soon as he becomes rich enough. Jack is now junior partner in the firm of Cutler-McDevitt Company, makers of machine tools, etc. He slips you a business card announcing himself as vice-president and assistant treasurer, and when last seen he was bound for Canada and the west "to call on the trade." As for myself I am still single,—force of circumstances, not inclination,—and am working for Mr. Tech at a salary of —\$250 a year and lab fees, etc. I managed to fool the doctor in New York after six very lengthy weeks in the hospital, escaped to the Tech club and a week later came home.

I didn't get back to Tech till the middle of November so you can picture the party I had trying to finish the term's work, particularly as I was only able to do about three hours' work a day at the start, and couldn't stand up in lab till about Christmas. I'm running again, but not too fast,—it looks as if I'd be unable to make fourth place on the sprint team that goes to Philadelphia next week.

In concluding, Chuck wishes to announce the final settlement of the affairs of *Technique* 1916. He has received a check from Jim Uhlinger for \$412.68, the final balance, to be turned over to the bursar as trustee of a fund from which, with the authority of the Finance Committee, the various activities,—preference given to *Technique*,—can borrow money to be used in discounting bills, etc.—Luke Lucas sends a brief card from Dennison, Ohio.:

Well, I am out here in this neck of the woods halfway between Pittsburgh and Columbus, working for the Pennsy Lines West. I like the work pretty well and hope to stick to the railroad, but of course don't know yet.

Hovey and John Freeman have been in the Orient since November with their father, and are expected home about the last of April.—Ned Hewins is losing his grip on things editorial, but is still "there" as regards things narrative. He writes:

After a brief rest from my nerve-shattering career at the 'Stute I started work for the Newport News Shipbuilding and Drydock Company in the steam turbine department as draftsman. They were at that time finishing up work on the battleship *Mississippi*, which will probably have her trial trip next fall. When this work was finished I got in on some of the bidding plans for geared turbines which were submitted for the new battleships *Maryland*, *Colorado*, *West Virginia* and *Washington*. The navy department, in its headlong dive for electric propulsion no-matter-what, turned us down (note "us") on the geared turbines, although we are building two of the ships. I may add that these four battleships, together with three others not yet completed, constitute what the *New York Times* termed our "Experimental battleships." What the *New York Times* did not say was that if electric propulsion at this stage of the game should prove a failure, these seven battleships would be practically junk, as their machinery space could not possibly be adapted to any other kind of propulsion than electric.

Anyhow the building of turbines at the yard has ceased for the time being, and I am now on the most interesting job that was ever created for a young engineer. I am now what is known as the engine drawing room office runner, which does not mean, however, office boy. I visit all the foremen in the yard each day to inquire whether they have found any mistakes or difficulties with the drawings. If they have I take the matter up with the office and straighten it out for them. It is the best job for accumulating general engineering experience that could possibly be devised, because it covers everything, and you get the viewpoint of both the mechanic and the draftsman. It is a job I am told they give their "promising" college men here for a period of about three months.

This is as far as I have gone. Strange to say I am not yet general manager or chief engineer nor, what is more important, am I married.

He concludes with the slam:

I imagine that about the only man in the class I will beat on the getting-married proposition is the assistant-secretary treasurer.

The latter disdains to reply.—Suds Sutherland says:

On July 5 I returned to the bosom of the dear old N. Y. N. H. & H. R. R. entering the electrical engineering department to help Uncle Sam evaluate its electrical equipment as decreed by Congress in 1913. On February 5 enlisted in Company

A, 1st Battalion, Signal Corps, National Guard, New York. Otherwise life has been without a ripple since Tuesday, June 13, 1916.

Carl Holmberg is with McClintic Marshall Construction Company at Camp Hill, Pa., detailing steel bridges and mill buildings. Brad Stetson is with the same company in their shops.—Bill Chandler is with Olmstead Brothers, landscape architects, and still lives in Brookline. He writes:

I am still single, never drink, chew, smoke nor swear. Long live the class of 1916.

Garfield Newcombe is with the Eastern Manufacturing Company in Bangor, Maine, designing a new Belmer Plant and its equipment. He meets several other Tech men, including Bill Wylde who is with the M. I. T. School of Chemical Engineering Practice there. They are all drilling, he says, in an officers' training school.—Walt Binger, also Wallace or Bing, is in business for himself and writes under the letterhead of Thompson and Binger, Inc., engineers and contractors:

Specializing in the design and construction of plain and reinforced structures of concrete, of all types. Offices, Syracuse, N. Y., and New York City. Landed the design and construction of a 200 x 100 four-story warehouse with 10,000 yards of earthwork, which we are now constructing.

Henry Sommer writes:

Left Boston for Rochester Railway and Light Company at Rochester on February 12, 1916. Assistant to H. C. Duffenbaugh, cost engineer, working on cost analysis and other such dry and hazy stuff, fit for the most studious grind. Raised right hand one day and before replacing in a well worn trousers pocket find that I am a private in Co. H, 3d N. Y. Infantry. Spent three and one-half months on the border as Sergeant Sommer. Present convincing people that Rochester Railway and Light Company, philanthropically speaking, has them ever in mind.

The Beverly *Times* of March 13 announces the engagement of George Stickney to Miss Pauline Klink.—The latest is that Bud Storm has joined the ever increasing legion of the "bound for life." The New York *Herald* of March 13 contains the account of the wedding, as follows:

At All Angels' Church on Thursday, Miss Elizabeth Cornell Roselle, daughter of Mr. and Mrs. Charles Roselle of Newburgh, N. Y., was married to Mr. Allston Everett Storm, son of Mr. and Mrs. Jules P. Storm of 147 West 77th street, by the Rev. Dr. S. Delancey Townsend, rector of the church.

The bride is widely known in Horse Show circles and has been one of the youngest exhibitors of horses at the Long Branch Show of the Hollywood Association and at the National Show at Madison Square Garden for the last three years.

Congratulations, Bud.—From the Boston *Advertiser* of March 17, 1917:

Col. Edmund Molyneux Blake, U. S. A., and Mrs. Blake of Providence, R. I., announce the engagement of their daughter, Miss Ayliffe Malbone Blake, to Nicholas Van Slyck Mumford of Providence.

The Springfield *Republican* announces that Walter H. Junkins is the new agent for the Springfield Board of Health.

A word or two regarding the secretaries, and the class news for the month is completed. Jim Evans is now with the Hyatt Roller Bearing Company in Newark, New Jersey.—Don Webster is still a student with the United States Rubber Company at their Lycoming Plant in Williamsport, Pa. He is planning to take the artillery course at Plattsburg this summer, and has applied for examination for admission to the Officers Reserve Corps. Still single and enjoying the state immensely. One or two incipient romances smashed during the winter. The last one was a moonlight sleigh ride; the thing tipped over.

Frank Kanaly has written so comprehensive a letter with an account of the Track Team's activities during the fall and winter seasons, that portions of it will be undoubtedly welcome to the men in the class who follow our athletics:

Cross-country season rather discouraging. Lost to Princeton. In this race two of our best men, Halfacre and MacMahon, did not run. At New England I. C. A. A. the team did not come up to expectations and we had decided that unless the team got better than third we should not go to New Haven for the I. C. 4 A. but devote the money to sending a team to the indoor I. C. 4 A. event. It was a choice, so we did not go to New Haven.

Our indoor, or rather "winter season" now, as we had all our work out of doors, was a great success. First, board track laid during vacation and training started for January 2. Track 8 feet wide, 78 yards straightaway, 150 yards per lap, raised corners which are movable, thus allowing flat track running. Dartmouth ran Princeton 390, so we had to accept Brown as our opponent at B. A. A.; we won in 3:12. 1920 ran with Dartmouth 1920 and Holy Cross 1920 and as last year finished second. Dartmouth was far too good, and we were about the same compared to Holy Cross. At Coast Artillery meet lost to Harvard, fairly close; 1920 defeated Harvard 1920 handily. At Hartford, two mile team lost to Dartmouth by 3 seconds; one mile team defeated Bowdoin very easily in the second fastest time of the evening. At the I. C. 4 A. meet in Philadelphia, O'Hara won the 50 yard dash and the whole team finished second in the contest. Four mile team finished second to Cornell but far in the rear. High jump team finished third, Sullivan tied for second with U. of P. man.

The interest during indoor season was great. Our spring season opened on March 19 and 147 men have reported and are taking work. This is a record. Yesterday we held 1919-1920 cross country and 1920 won, 38-42. There were thirty-four starters. Next Saturday, April 7, 1919-20 dual track meet. Friday April 20, Interclass Spring Meet. Saturday, April 28, Maine Dual Meet at the Field. Saturday, May 5, Bowdoin at Brunswick. Saturday, May 12, Princeton at Princeton. May 18 and 19, N. E. I. C. A. A. at Tech Field. I. C. 4 A. at Franklin Field, Philadelphia, May 25 and 26.

Here is an ideal chance for sixteeners in the vicinity of Boston, Brunswick, Princeton and Philadelphia to show a bit of loyalty of the best kind. Keep the above dates in mind and "Be There."

A financial report of the class will be forwarded to the members some time in May when all of the answers have been received from the class letter. Among other things planned for the future is a big class reunion to be held in Boston this June. As yet things are somewhat of a secret. It is up to every member of 1916 to keep in constant touch with the class secretaries and it is earnestly hoped that any changes in address or business will be promptly

forwarded. Here's to the June Reunion. Let us all be there with the true Tech and 1916 spirit.

Address Changes

E. J. Barney, 21 Seminary Ave., Dayton, Ohio.—Thomas A. Berrigan, 1009 New Hampshire Ave., Washington, D. C.—Walter D. Binger, 280 Madison Ave. at 40th St., New York City.—Wesley H. Blank, Y. M. C. A., Pottstown, Pa.—Mervin W. Bliss, 18 Ely Ave., Long Island City, N. Y.—T. D'A. Brophy, 84 Browne St., Brookline, Mass.—Frank W. Bucknam, 16 Grant St., Dennison, Ohio, Box 659.—Harold H. Burkhardt, care of Missouri Rate Case, A. T. and S. F. Ry. Co., Topeka, Kan.—Paul H. Buxton, 127 Migeon Ave., Torrington, Conn.—Theron S. Curtis, T. S. Smith Co., North Attleboro, Mass.—Elbridge R. Devine, The Canada Paint Co., 572 William St., Montreal, Canada.—Donald O. Dunn, 20 Beacon St., Boston, Mass.—Herbert W. Ellis, 88 Marloes St., East Cleveland, Ohio.—John G. Fairfield, 6 Balsam Ave., Troy, N. Y., William H. Fleming, 49 Hurlburt Ave., Akron, Ohio.—Harold C. Fuller, 297 Pleasant St., Berlin, N. H.—Ernest C. Gagnon, 633 E. Market St., Akron, Ohio.—Herbert J. Gilkey, 2131 W. 59th St., Chicago, Ill.—Carl H. Holmberg, Bowman Ave., Camp Hill, Pa.—Basil Lanphier, Box 193, Lebanon, Pa.—Thomas W. Little, 84 Browne St., Brookline, Mass.—Eugene W. V. C. Lucas, Box 659, Dennison, Ohio.—Lieut. Hadyn P. Mayers, Fort Leavenworth, Kan.—Fred McKown, care Western Electric Co., 463 West St., New York City.—Merrick A. Monroe, 45 Home Ave., Crafton, Pa.—Garfield M. Newcombe, 15 Ohio St., Bangor, Maine.—Roswell M. Rennie, 92 Prospect St., Waterbury, Conn.—Melville H. Rood, 613 Hazel St., Akron, Ohio.—William G. Sprague, 79 Washington Pl., New York City.—Leonard Stone, Central Branch, Y. M. C. A., Brooklyn, N. Y.—Warren A. Strangman, 139 Ashmont St., Dorchester, Mass.—George A. Sweet, Box 812, Strunthers, Ohio.—George W. Tuttle, Box 391, Lincoln, Maine.—Lewis S. Vose, 47 Newcomb St., Arlington, Mass.—John C. Whitaker, Y. M. C. A., South Bend, Ind.—Russell H. White, 62 Huntington St., Lowell, Mass.—Robert E. Wilson, 281 Harvard St., Cambridge, Mass.—Max I. Woythaler, Box 481, Herkimer, N. Y.—Rudolf E. Gruber, care of Merk and Co., Rahway, N. J.—Albert E. Kleinert, Jr., 38 Hamilton Rd., Somerville, Mass.